

# **SANYO**

**SANYO Factory Code N7SG**

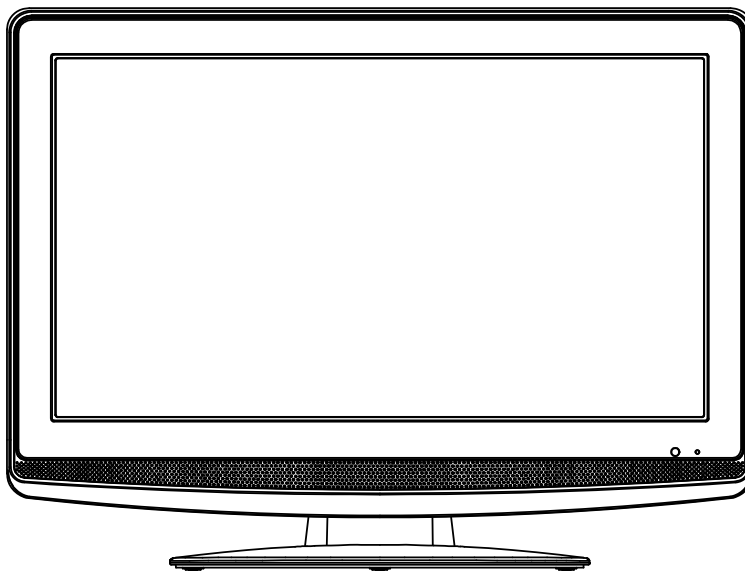
**Service Reference NO. 272**

## **DP19649**

# **SERVICE MANUAL**

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**18.5" HDTV LCD**



**ORIGINAL  
MFR'S VERSION A**

## SERVICING NOTICES ON CHECKING

### 1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

### 2. AVOID AN ELECTRIC SHOCK

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

### 3. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.

Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a  $\triangle$  mark, the designated parts must be used.

### 4. BE CAREFUL WITH THE LCD PANEL

Avoid a shock to the panel while servicing. Take enough care to deal with it.

### 5. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

### 6. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

#### (INSULATION CHECK PROCEDURE)

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the external exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

#### **[Note 1]**

If you have not the 500V insulation resistance meter, use a Tester.

#### **[Note 2]**

External exposure metal: Antenna terminal  
Headphone jack

## HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

#### 1. MODEL NUMBER and VERSION LETTER

The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.

#### 2. PART NO. and DESCRIPTION

You can find it in your SERVICE MANUAL.

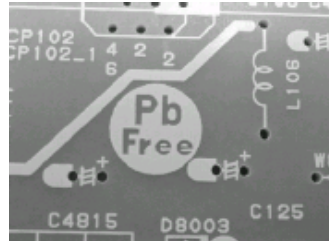
## IMPORTANT

When you exchange IC and Transistor with a heat sink, apply silicon grease (YG6260M) on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damage to the IC and Transistor).

## ABOUT LEAD FREE SOLDER (PbF)

### Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.  
(Please refer to figures.)



### Caution:

- Pb free solder has a higher melting point than standard solder;  
Typically the melting point is 86°F~104°F(30°C~40°C) higher.  
Please use a soldering iron with temperature control and adjust it to 650°F ± 20°F (350°C ± 10°C).  
In case of using high temperature soldering iron, please be careful not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100°F/ 600°C).
- All products with the printed circuit board with PbF printing must be serviced with lead free solder.  
When soldering or unsoldering, completely remove all of the solder from the pins or solder area,  
and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

### Recommendations

Recommended lead free solder composition is Sn-3.0Ag-0.5Cu.

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# GENERAL SPECIFICATIONS

G-1	TV System	LCD	LCD Size / Visual Size		18.50 inch / 470.1mmV
			LCD Type		Color TFT LCD
			Number of Pixels		1366(H) x 768(V)
			View Range	Left/Right Up/Down	85/85 degree
					80/80 degree
			Bright Dot	n≤3	
			Zero Bright Dot Ratio	70%	
	Color System	NTSC			
	Speaker		Position Size Impedance	2 Speaker	
				Front	
				1.0 x 2.7 inch	
			Impedance	8 ohm	
		Sound Output	Max	1.5W + 1.5W	
			10%(Typical)	---	
		G-2	Tuning System	Broadcasting System	Analog
Digital	ATSC(8VSB)/QAM				
Tuner and Receive CH	System			1Tuner	
	Destination			US (W/CABLE)	
CH Coverage	2~69, 4A, A-5~A-1, A~I, J~W, W+1~W+94				
Intermediate Digital	44.00MHz				
Frequency Analog	Picture(FP)			45.75MHz	
	Sound(FS)			41.25MHz	
	FP-FS			4.50MHz	
	Preset CH			No	
	Stereo/Dual TV Sound	US-Stereo			
	Tuner Sound Muting	Yes			
G-3	Signal	Video Signal	Input Level	1 V p-p/75 ohm	
			Output Level	--	
			S/N Ratio (Weighted)	--	
			Horizontal Resolution at DVD Mode	--	
				--	
		RGB Signal	Output Level	--	
		Audio Signal	Input Level	-8.0dBm/50k ohm	
			Output Level	at DVD	--
				at TV	--
				--	
			Digital Output Level	0.5 V p-p/75 ohm	
			S/N Ratio at DVD (Weighted)	--	
			Harmonic Distortion	--	
			Frequency Response :	at DVD	--
				at Video CD	--
		at SVCD	--		
		at CD	--		
G-4	Power	Power Source	AC	120V, 60Hz	
			DC	--	
		Power Consumption		at AC	29W at 120V 60Hz
				at DC	--
				Stand by (at AC)	0.8W at 120V 60Hz
			Energy Star	Yes	
	Per Year	-- kWh/Year			
	Protector	Power Fuse	Yes		
		Safety Circuit	Yes		
		IC Protector(Micro Fuse)	Yes		
G-5	Regulation	Safety	UL(UL60065_7th)/cUL(CSA E60065_03)		
		Radiation	FCC/IC		
		Laser	--		
G-6	Temperature	Operation	+5°C ~ +40°C		
		Storage	-20°C ~ +60°C		
		Space Around Unit	10cm (4inch)		
G-7	Operating Humidity	Less than 80% RH			
G-8	Clock and Timer	Clock	No		
		Sleep Timer	Max Time	120 Min	
		On Timer	Program	No	
		Off Timer	Program	No	
		Game Timer		No	
		Wake Up Timer		No	
		Timer Back-up (at Power Off Mode)	more than	--	Min

## GENERAL SPECIFICATIONS

G-9	Remote Control	Unit	RC-PV
		Glow in Dark Remocon	No
		Remocon Format	ORION
		Format	NEC
		Custom Code	86-05 h
		Power Source	3V
		Voltage(D.C)	UM-4 x 2 pcs
		UM size x pcs	
		Total Keys	28 Keys
		Keys	Power
			Yes
		1	Yes
		2	Yes
		3	Yes
		4	Yes
		5	Yes
		6	Yes
		7	Yes
		8	Yes
		9	Yes
		0	Yes
		-	Yes
		Recall (Quick View)	Yes
		Sleep	Yes
		Mute	Yes
		CH+ / Up	Yes
		CH- / Down	Yes
		VOL+ / Right	Yes
		VOL- / Left	Yes
		Menu	Yes
		Reset	Yes
		Exit	Yes
		Enter	Yes
		Input Select	Yes
		CCD (Closed Caption)	Yes
		Display	Yes
		Zoom (Picture Size)	Yes
		FAV +	No
		FAV -	No
		Audio	Yes
G-10	Features	Auto Shut Off	Yes
		Auto Search	No
		Power On Memory	Yes
		Comb Filter	Yes
			3 -D
		Game Position	No
		Auto Setup(Language/CH Program)	Yes
		Picture Setting(TV)	Yes
		Picture Preference	Yes
		Brightness , Contrast , Color	Yes
		Tint	Yes
		Sharpness	Yes
		Color Temperature	Yes
		DNR	Yes
		Backlight	Yes
		Picture Setting(PC)	Yes
		HOR Position , VER Position	Yes
		Phase, Clock	Yes
		Red, Green, Blue	No
		Auto Adjust	Yes
		MTS	Yes
		Tone Control (Bass/Treble/Balance)	Yes
		Stable Sound	No
		Surround	Yes
		BBE	No
		SRS WOW (SRS 3D/Focus/Tru Bass)	No
		Variable Audio Out	No

## GENERAL SPECIFICATIONS

	Tuning	CH Program	Yes
		Air/Cable	Yes
		ADD/DELETE	Yes
	Label	CH Label	Yes
		Video Label	Yes
	Favorite CH		No
	V-Chip		Yes
		Type	USA Type
	RRT Setup		Yes
	Lock	Hotel Lock	No
		Channel Lock	No
		Video Lock	No
		Panel Lock	No
	Menu Language		Englis
	DBC (Dynamic Backlight Contrast)		No
	Signal Meter (DTV Signal)		Yes
	Closed Caption		Yes
	CC Advanced		Yes
	V-Chip Clear		Yes
	Picture Size		Yes
	HD Zoom		Yes
	Film Mode		Yes
	Aspect		No
	PFC(Power Factor circuit)		No
	Freeze frame		No
	PIP/POP		No
	Direct Input Selection		Yes
	Digital Out	Dolby Digital	Yes
		MPEG	No
		PCM	Yes
		DTS	No
	PC Monitor Input		Yes
		VGA (640x480)	Yes (60,72,75Hz)
		VGA (720x400)	Yes (70Hz)
		WVGA (848x480)	No
		SVGA (800x600)	Yes (56,60,72,75Hz)
		XGA (1024x768)	Yes (60,70,75Hz)
		WXGA (1280x768)	Yes (60Hz)
		WXGA (1280x720)	Yes (60Hz)
		WXGA (1360x768)	Yes (60Hz)
		SXGA (1280x1024)	No
	HDMI Input		Yes
		VGA (640x480)	Yes (60Hz)
		720x480i (4:3)	Yes (60Hz)
		720x480i (16:9)	Yes (60Hz)
		720x480p (4:3)	Yes (60Hz)
		720x480p (16:9)	Yes (60Hz)
		720x576i (4:3)	No
		720x576i (16:9)	No
		720x576p (4:3)	No
		720x576p (16:9)	No
		1280x720p	Yes (60Hz)
		1920x1080i	Yes (60Hz)
		1920x1080p	Yes (60Hz)
		CEC (ORION Standard)	No
		Deep Color	No
		xvYCC	No
	DVI to HDMI Input	VGA (640x480)	Yes (60,72,75Hz)
		VGA (720x400)	Yes (70Hz)
		WVGA (848x480)	No
		SVGA (800x600)	Yes (56,60,72,75Hz)
		XGA (1024x768)	Yes (60,70,75Hz)
		WXGA (1280x768)	Yes (60Hz)
		WXGA (1280x720)	Yes (60Hz)
		WXGA (1360x768)	Yes (60Hz)
		SXGA (1280x1024)	No

## GENERAL SPECIFICATIONS

		Component Input		Yes
			720x480i (4:3)	Yes (60Hz)
			720x480i (16:9)	Yes (60Hz)
			720x480p (4:3)	Yes (60Hz)
			720x480p (16:9)	Yes (60Hz)
			720x576i (4:3)	No
			720x576i (16:9)	No
			720x576p (4:3)	No
			720x576p (16:9)	No
			1280x720p	Yes (60Hz)
			1920x1080i	Yes (60Hz)
			1920x1080p	No
		Wall Mount	Size W x H(mm)	Yes (100 x 100)
			Screw Size	M4 x 10
		Stand	Tilt	No
			Swivel	No
G-11	Accessories	Owner's Manual	Language	English / Spanish
			w/Guarantee Card	Yes
		Remote Control Unit		Yes
		Rod Antenna		No
			Poles	--
			Terminal	--
		Loop Antenna		No
			Terminal	--
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Guarantee Card		No
		Warning Sheet		No
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Important Safeguard		No
		Dew/AHC Caution Sheet		No
		Quick Set-up Sheet		No
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
			OEM Brand	No
		AC Adapter		No
		AC Cord (for AC Adapter)		No
		AC Cord		Yes
		AV Cord (2Pin-1Pin)		No
		Registration Card (NDL Card)		No
		300 to 75ohm Antenna Adapter		No
		Stand		Yes
		Stand Screw		Yes(2pcs)
		Sheet Information (FCC)		No
		Sheet Information (DTV)		No
		Sheet Information (Return)		Yes
		Sheet Information (Picture Quality)		Yes
		Sheet Information (HDMI)		No



## GENERAL SPECIFICATIONS

G-12	Interface	Switch	Side	Power (Tact)	Yes		
				Channel Up/Menu Up	Yes		
				Channel Down/Menu Down	Yes		
				Volume Up/Menu >	Yes		
				Volume Down/Menu <	Yes		
				Menu	Yes		
				Play	No		
				Eject	No		
				Skip+, Search+	No		
				Skip-, Search-	No		
				Still/Pause	No		
				Stop	No		
				Main Power SW	No		
				Input Select/Enter	Yes		
				Indicator	Rear	Main Power SW	No
						Power/Stand-By	Yes (Green / Red)
		Power Wake Up	No				
		Terminals	Rear	On Timer	No		
				Video Input 1	RCA x 1		
				Audio Input 1	RCA x 2(L/MONO, R)		
			S - Input 1	Yes			
			Video Input 2	No			
			Audio Input 2	No			
			S - Input 2	No			
			Video Output	No			
			Audio Output	No			
			Component Input 1	RCA x 3			
			Analog Audio	RCA x 2(L/MONO, R)			
			Component Input 2	No			
			Analog Audio	No			
			HDMI Input 1	Yes			
			Analog Audio	PC Audio Input Alternative			
			HDMI Input 2	No			
			Analog Audio	No			
			Sub Woofer Out	No			
			PC Monitor Input	Yes			
			Analog Audio	Mini Pin Jack( ϕ 3.5), STEREO			
			Digital Audio Output	Coaxial			
			DC Jack (Center +)	No			
			VHF/UHF Antenna Input	F Type			
			Video Input 3	No			
			Audio Input 3	No			
			S - Input 3	No			
			Other Terminal	Headphone			
		AC Inlet	Yes				
		G-13	Set Size		Approx. W x D x H (mm)	472 x 174 x 362	
			w/o Handle, Stand Approx. W x D x H (mm)	472 x 64 x 328			
G-14	Weight		Net (Approx.)	3.7kg (8.2lbs)			
			Net w/o Handle, Stand (Approx.)	3.4kg (7.5lbs)			
			Gross (Approx.)	4.7kg (10.4lbs)			
			Gross w/Master Carton (Approx.)	--- kg (--- lbs)			
G-15	Carton	Master Carton	Content		No		
			Material		--- Sets		
			Dimensions W x D x H(mm)		---		
			Description of Origin		---		
		Gift Box	Material		Single/Full Color		
			W/Color Photo Label		No		
			W/Handle		No		
			Dimensions W x D x H(mm)		542 x 426 x 147		
		Description of Origin		No			
		Drop Test			1 Corner / 3 Edges / 6 Surfaces		
			Height (cm)		80		
		Container Stuffing (40' container)		1852 Sets/40' container			
		w/Pallet		No			
		w/Wrapping		No			
		G-16	Material	Cabinet	Front	PS 94V0 NON-DECABROM	
					Rear	PS 94V0 NON-DECABROM	
Jack Panel	--						
PCB	Non-Halogen Demand			No			
	Eyelet Demand			Yes			
G-17	Environment	Environmental standard requirement		Green procurement of SANYO			
		Pb-free	Phase3(Phase3A)				
		Measures for Whisker	Yes				

## DISASSEMBLY INSTRUCTIONS

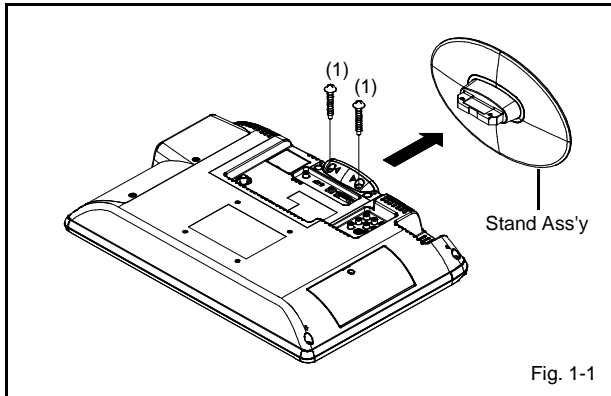
### 1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

#### CAUTION

Be careful not to remove the LVDS cable forcibly, because the LVDS cable may be damaged.

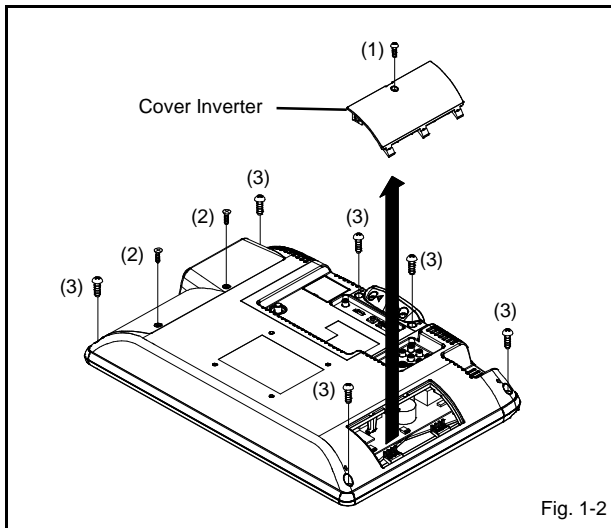
#### 1-1: STAND ASS'Y (Refer to Fig. 1-1)

1. Remove the 2 screws (1).
2. Remove the Stand Ass'y in the direction of arrow.



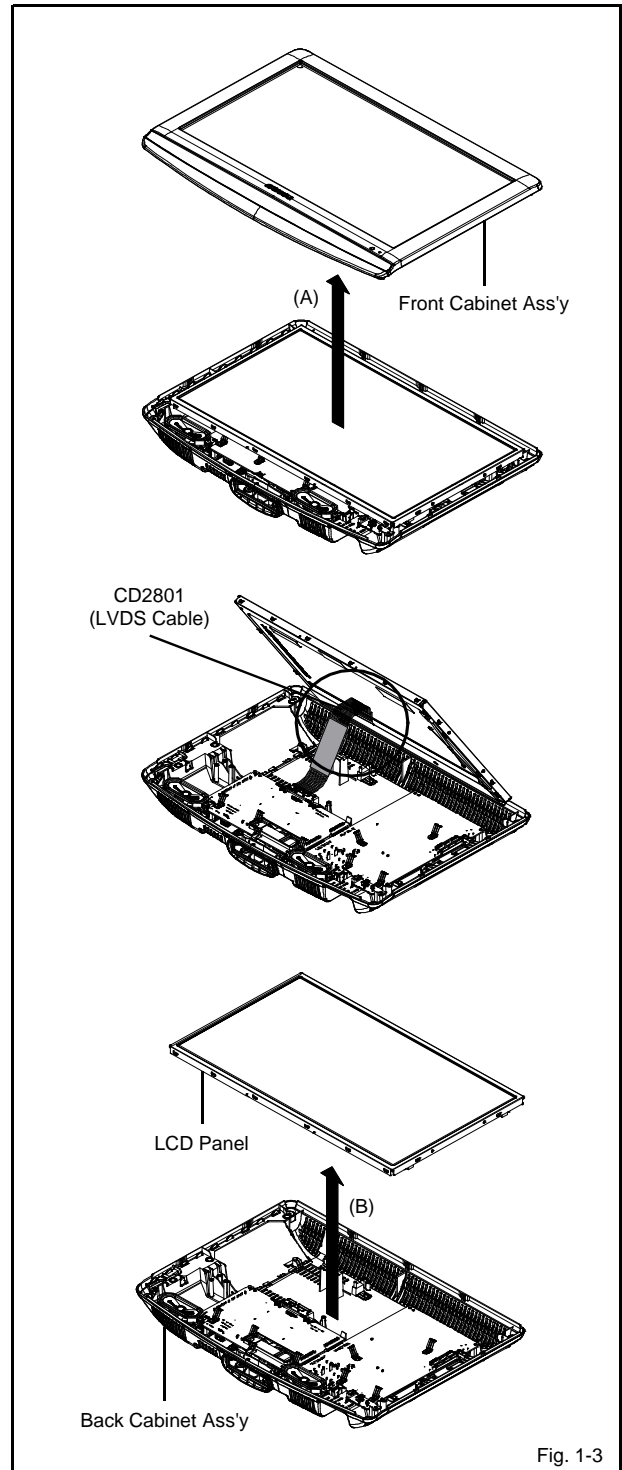
#### 1-2: COVER INVERTER (Refer to Fig. 1-2)

1. Remove the screw (1).
2. Remove the Cover Inverter in the direction of arrow.
3. Disconnect the following connectors: **(CP7001 and CP7002)**.
4. Remove the 2 screws (2)
5. Remove the 6 screws (3)



#### 1-3: FRONT CABINET ASS'Y and LCD PANEL (Refer to Fig. 1-3)

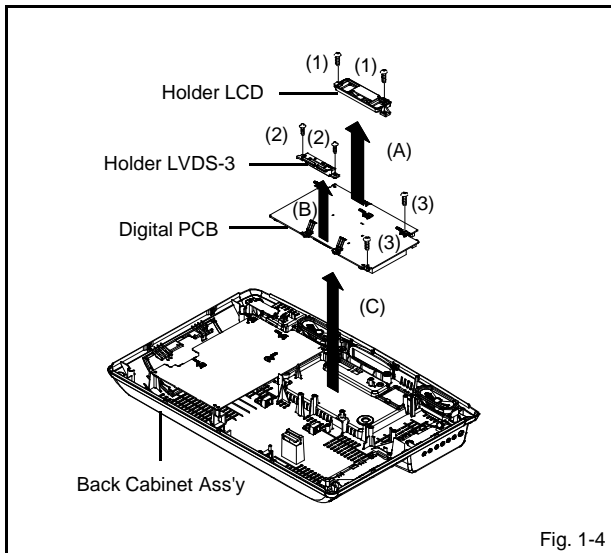
1. Turn up set and put the Front Cabinet Ass'y of LCD on the top.
2. Remove the Front Cabinet Ass'y in the direction of arrow (A).
3. Disconnect the following connector: **(CD2801)**.
4. Remove the LCD Panel in the direction of arrow (B).



## DISASSEMBLY INSTRUCTIONS

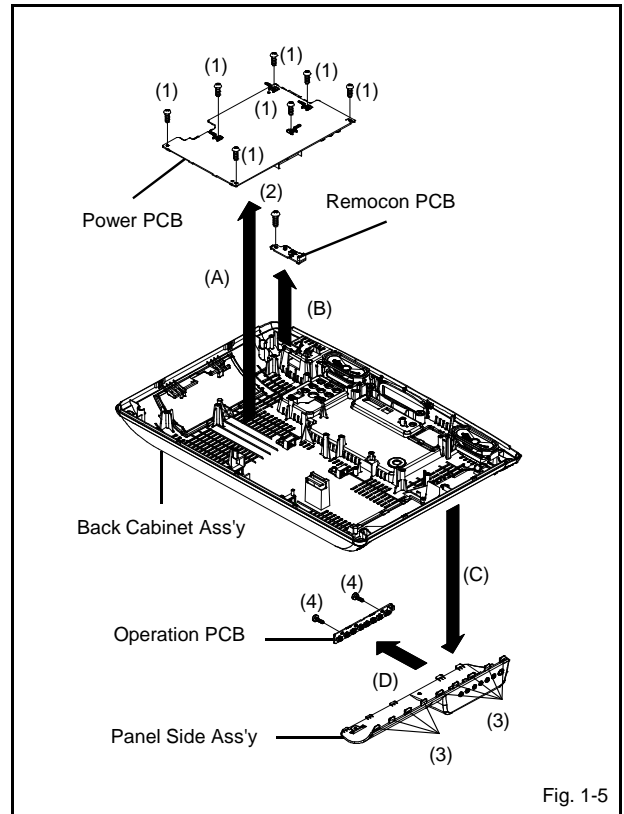
### 1-4: DIGITAL PCB (Refer to Fig. 1-5)

1. Remove the 2 screws (1).
2. Remove the Holder LCD in the direction of arrow (A).
3. Remove the 2 screws (2).
4. Remove the Holder LVDS-3 in the direction of arrow (B).
5. Remove the 2 screws (3).
6. Disconnect the following connector:  
**(CP501, CP2201 and CP8101).**
7. Remove the Digital PCB in the direction of arrow (C).



### 1-5: POWER PCB, REMOCON PCB and OPERATION PCB (Refer to Fig. 1-5)

1. Disconnect the following connector: **(CP7601).**
2. Remove the 7 screws (1).
3. Remove the Power PCB in the direction of arrow (A).
4. Remove the screw (2).
5. Remove the Remocon PCB in the direction of arrow (B).
6. Push 9 supports (3).
7. Remove the Panel Side Ass'y in the direction of arrow (C).
8. Remove the 2 screws (4).
9. Remove the Operation PCB in the direction of arrow (D).



## DISASSEMBLY INSTRUCTIONS

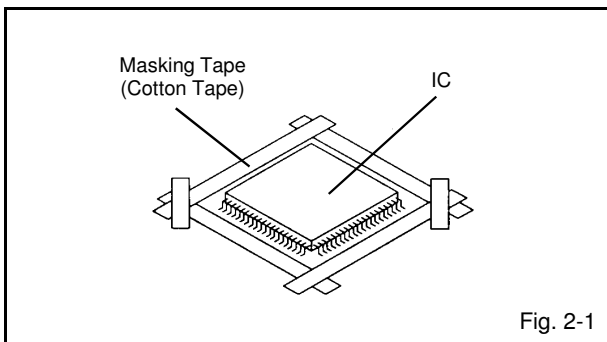
### 2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

#### REMOVAL

1. Put Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. (Refer to Fig. 2-1.)

#### NOTE

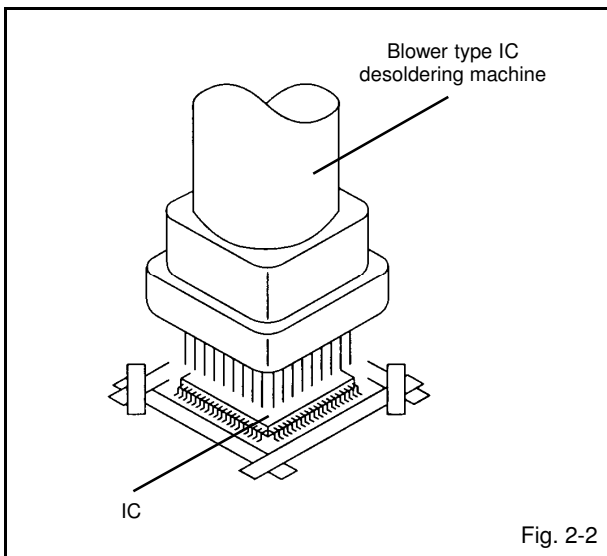
Masking is carried out on all the parts located within 10 mm distance from IC leads.



2. Heat the IC leads using a blower type IC desoldering machine. (Refer to Fig. 2-2.)

#### NOTE

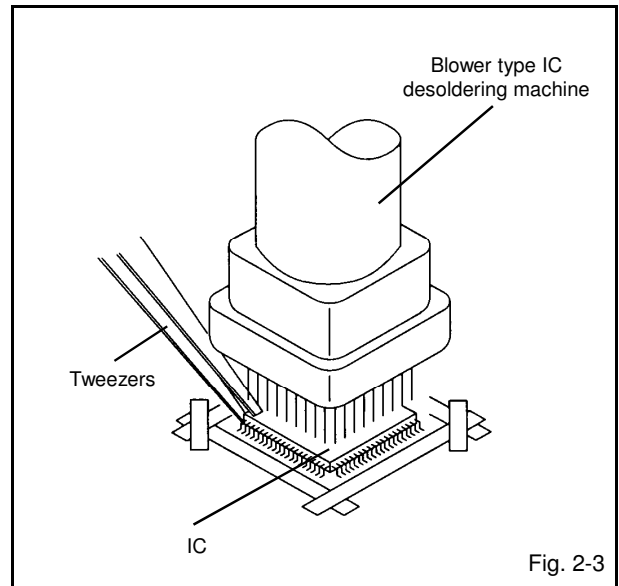
Do not rotate or move the IC back and forth, until IC can move back and forth easily after desoldering the leads completely.



3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using tweezers and remove the IC by moving with the IC desoldering machine. (Refer to Fig. 2-3.)

#### NOTE

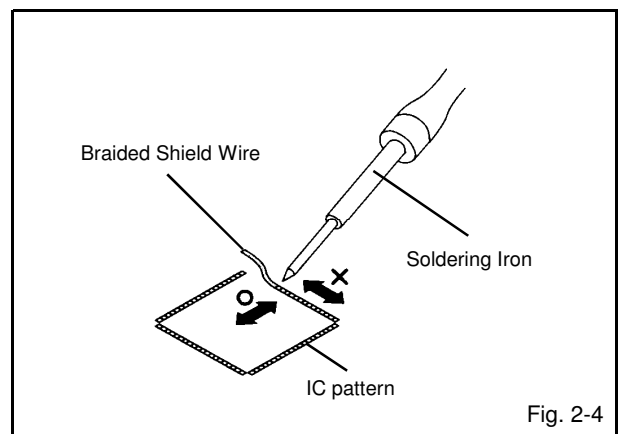
Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.



4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. (Refer to Fig. 2-4.)

#### NOTE

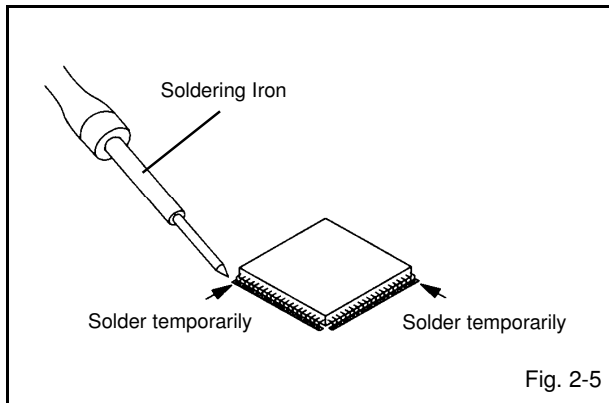
Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.



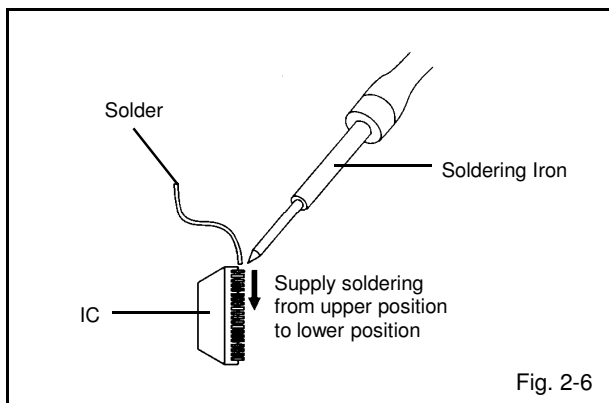
## DISASSEMBLY INSTRUCTIONS

### INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 2-5.)**



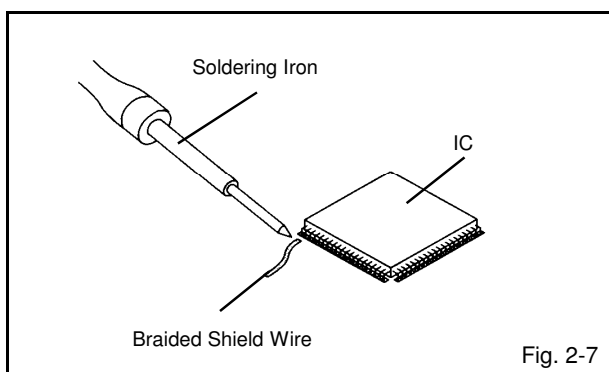
2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 2-6.)**



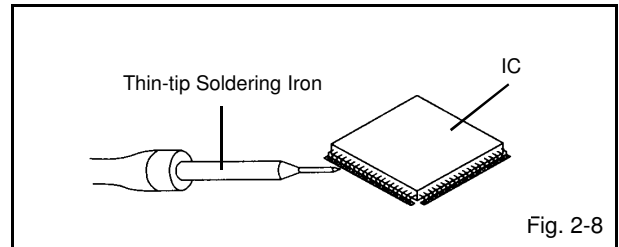
3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 2-7.)**

### NOTE

Do not absorb the solder to excess.



4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thintip Soldering Iron. **(Refer to Fig. 2-8.)**



5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass. Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

### NOTE

When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, always be sure to replace the IC in this case.

## SERVICE MODE LIST

This unit is provided with the following SERVICE MODES so you can repair, examine and adjust easily.

To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit and on the remote control for more than a the standard time in the appropriate condition. (See below chart.)

Set Condition	Set Key	Remocon Key	Standard Time	Operations
POWER ON	VOL. DOWN (Minimum)	0	2 sec.	Releasing of V-CHIP PASSWORD.
POWER ON	VOL. DOWN (Minimum)	1	2 sec.	Initialization of factory TV data. NOTE: If you set factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours.
POWER ON	VOL. DOWN (Minimum)	6	2 sec.	Can be checked of the INITIAL DATA of MEMORY IC. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
POWER ON	VOL. DOWN (Minimum)	8	2 sec.	Check of the SUM DATA and MICON VERSION on the screen. Refer to the "WHEN REPLACING EEPROM (MEMORY) IC".
POWER ON	VOL. DOWN (Minimum)	9	2 sec.	Display of the Adjustment MENU on the screen. Refer to the "ELECTRICAL ADJUSTMENT" (On-Screen Display Adjustment).

## WHEN REPLACING EEPROM (MEMORY) IC

### CONFIRMATION OF CHECK SUM, POWER ON TOTAL HOURS AND MICON VERSION

Initial total of MEMORY IC, POWER ON total hours and MICON VERSION can be checked on the screen. Total hours are displayed in 16 system of notation.

**NOTE: If you set a factory initialization, the total hours is reset to "0".**

**Please refer to "CONFIRMATION OF INITIAL DATA" when SUM DATA is not corresponding.**

1. Turn on the POWER, and set to the ALL mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(8)** on the remote control for more than 2 seconds.
4. After the confirmation of each check sum, turn off the power.

NOTE: The each item value might be different according to each set.

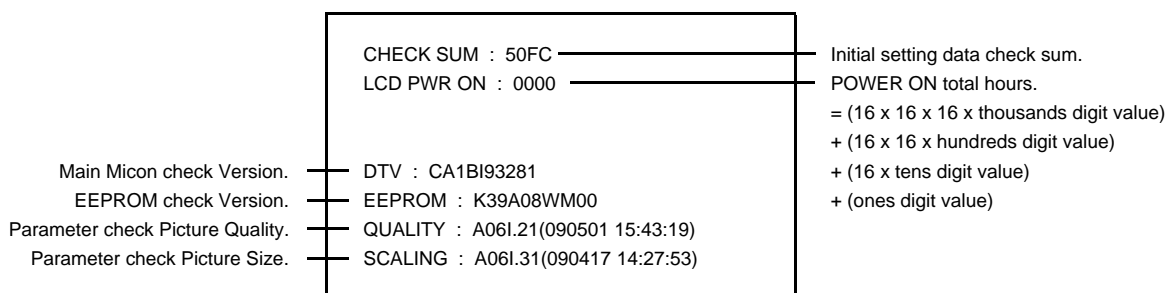


FIG. 1

### CONFIRMATION OF INITIAL DATA

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to INITIAL SETTING TABLE (Attached "INITIAL DATA").

1. Turn on the POWER, and set to the ALL mode.
2. Set the VOLUME to minimum.
3. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 2 seconds.  
ADDRESS and DATA should appear as FIG 2.

NOTE: No need to set data other position than 0D00~0EFF.

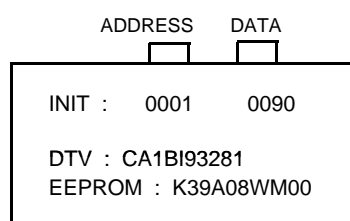


FIG. 2

4. ADDRESS is now selected and should "blink". Using the CH. UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press VOL. UP/DOWN button to select DATA. When DATA is selected, it will "blink".
6. Again, step through the DATA using CH. UP/DOWN button until required DATA value has been selected.
7. Pressing VOL. UP/DOWN button will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 6 until all data has been checked.
9. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

**After the data input, set to the initializing of shipping.**

10. Turn on the Power.
  11. Set the VOLUME to minimum.
  12. Press both VOL. DOWN button on the set and Channel button **(1)** on the remote control for more than 2 seconds.
  13. After the finishing of the initializing of shipping, the unit will turn off automatically.
- The unit will now have the correct DATA for the new MEMORY IC.

# ELECTRICAL ADJUSTMENTS

## 1. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

### CAUTION

- Use an isolation transformer when performing any service on this chassis.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor with a heat sink, apply silicon grease (**YG6260M**) on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor).

**Prepare the following measurement tools for electrical adjustments.**

1. Pattern Generator

### On-Screen Display Adjustment

1. Set the VOLUME to minimum.
2. Press the VOL. DOWN button on the set and the channel button (**9**) on the remote control for more than 2 seconds to display adjustment mode on the screen as shown in **Fig. 1-1**.

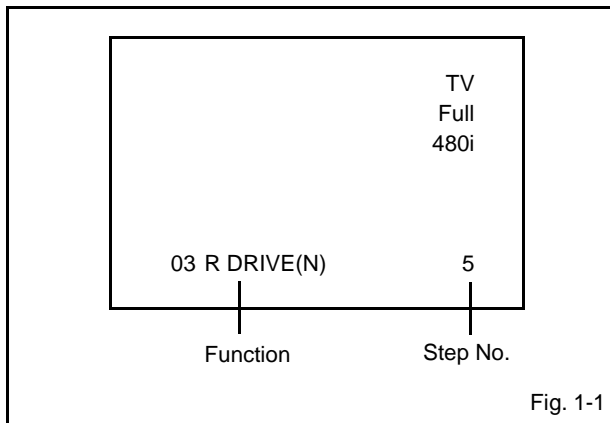


Fig. 1-1

3. Use the CH. UP/DOWN button or Channel button (**0-9**) on the remote control to select the options shown in **Fig. 1-2**.
4. Press the MENU button on the remote control to end the adjustments.
5. To display the adjustment screen for TV, AV, COMPONENT, HDMI and PC mode, press the INPUT SELECT button on the remote control.
6. Receive the DIGITAL broadcasting.
7. To display the adjustment screen for DTV mode, select the digital channel.
8. Press the VOL.DOWN button on the set and the channel (**9**) on the remote control for more than 2 seconds.

NO. FUNCTION	NO. FUNCTION
03 R DRIVE(N)	35 TINT
04 R CUTOFF(N)	36 SHARP H1 MAX
05 G DRIVE(N)	37 SHARP H1 MIN
06 G CUTOFF(N)	38 SHARP H2 MAX
07 B DRIVE(N)	39 SHARP H2 MIN
08 B CUTOFF(N)	40 SHARP H3 MAX
09 R DRIVE(C)	41 SHARP H3 MIN
10 R CUTOFF(C)	42 SHARP H4 MAX
11 G DRIVE(C)	43 SHARP H4 MIN
12 G CUTOFF(C)	44 SHARP H5 MAX
13 B DRIVE(C)	45 SHARP H5 MIN
14 B CUTOFF(C)	46 SHARP V1 MAX
15 R DRIVE(W)	47 SHARP V1 MIN
16 R CUTOFF(W)	48 SHARP V2 MAX
17 G DRIVE(W)	49 SHARP V2 MIN
18 G CUTOFF(W)	50 CONTRAST CENTER
19 B DRIVE(W)	51 CONTRAST MAX
20 B CUTOFF(W)	52 CONTRAST MIN
29 BAK LIGHT CENT	53 COLOR CENTER
30 BAK LIGHT MAX	54 COLOR MAX
31 BAK LIGHT MIN	55 COLOR MIN
32 BRIGHTNESS CENT	58 CONTRAST 40
33 BRIGHTNESS MAX	
34 BRIGHTNESS MIN	

Fig. 1-2

## 2. BASIC ADJUSTMENTS

### 2-1: WHITE BALANCE

1. Place the set in Aging Test for more than 30 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Press the INPUT SELECT button on the remote control to set to the AV mode.
4. Using the remote control, set the brightness and contrast to normal position.
5. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**03**) on the remote control to select "R DRIVE(N)".
6. Press the CH. UP/DOWN button on the remote control to select the "R CUTOFF(N)", "B DRIVE(N)", "B CUTOFF(N)", "R DRIVE(C)", "R CUTOFF(C)", "B DRIVE(C)", "B CUTOFF(C)", "R DRIVE(W)", "R CUTOFF(W)", "B DRIVE(W)" or "B CUTOFF(W)".
7. Adjust the VOL.UP/DOWN button on the remote control to whiten the R DRIVE(N), R CUTOFF(N), B DRIVE(N), B CUTOFF(N), R DRIVE(C), R CUTOFF(C), B DRIVE(C), B CUTOFF(C), R DRIVE(W), R CUTOFF(W), B DRIVE(W) and B CUTOFF(W) at each step tone sections equally.
8. Perform the above adjustments 6 and 7 until the white color is achieved.



## ELECTRICAL ADJUSTMENTS

### 2-2: BRIGHTNESS CENT

1. Place the set in Aging Test for more than 30 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(32)** on the remote control to select "BRIGHTNESS CENT".
5. Press the VOL.UP/DOWN button on the remote control until the contrast step No. becomes "130".
6. Check if the picture is normal.
7. Receive the color bar pattern. (VIDEO Input)
8. Using the remote control, set the brightness and contrast to normal position.
9. Press the INPUT SELECT button on the remote control to set to the AV mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(32)** on the remote control to select "BRIGHTNESS CENT".
11. Press the VOL.UP/DOWN button on the remote control until the contrast step No. becomes "1131".
12. Check if the picture is normal.
13. Receive the color bar pattern. (S-VIDEO Input)
14. Using the remote control, set the brightness and contrast to normal position.
15. Press the INPUT SELECT button on the remote control to set to the AV(Y/C) mode. Then perform the above adjustments 10~12.
16. Playback the DVD(480i) disc. (COMPONENT Input)
17. Using the remote control, set the brightness and contrast to normal position.
18. Press the INPUT SELECT button on the remote control to set to the COMPONENT mode.
19. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(32)** on the remote control to select "BRIGHTNESS CENT".
20. Press the VOL.UP/DOWN button on the remote control until the contrast step No. becomes "132".
21. Check if the picture is normal.
22. Playback the DVD(480i) disc. (HDMI Input)
23. Using the remote control, set the brightness and contrast to normal position.
24. Press the INPUT SELECT button on the remote control to set to the HDMI mode.
25. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(32)** on the remote control to select "BRIGHTNESS CENT".
26. Press the VOL.UP/DOWN button on the remote control until the contrast step No. becomes "127".
27. Check if the picture is normal.

### 2-3: CONTRAST MAX

1. Place the set in Aging Test for more than 30 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "CONTRAST MAX".
5. Press the VOL.UP/DOWN button on the remote control until the contrast step No. becomes "140".
6. Check if the picture is normal.
7. Receive the color bar pattern. (VIDEO Input)
8. Using the remote control, set the brightness and contrast to normal position.
9. Press the INPUT SELECT button on the remote control to set to the AV mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "CONTRAST MAX".
11. Press the VOL.UP/DOWN button on the remote control until the contrast step No. becomes "146".
12. Check if the picture is normal.
13. Receive the color bar pattern. (S-VIDEO Input)
14. Using the remote control, set the brightness and contrast to normal position.
15. Press the INPUT SELECT button on the remote control to set to the AV(Y/C) mode. Then perform the above adjustments 10~12.
16. Playback the DVD(480i) disc. (COMPONENT Input)
17. Using the remote control, set the brightness and contrast to normal position.
18. Press the INPUT SELECT button on the remote control to set to the COMPONENT mode.
19. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "CONTRAST MAX".
20. Press the VOL.UP/DOWN button on the remote control until the contrast step No. becomes "142".
21. Check if the picture is normal.
22. Playback the DVD(480i) disc. (HDMI Input)
23. Using the remote control, set the brightness and contrast to normal position.
24. Press the INPUT SELECT button on the remote control to set to the HDMI mode.
25. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(51)** on the remote control to select "CONTRAST MAX".
26. Press the VOL.UP/DOWN button on the remote control until the contrast step No. becomes "117".
27. Check if the picture is normal.

## ELECTRICAL ADJUSTMENTS

### 2-4: CONTRAST 40

1. Place the set in Aging Test for more than 30 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**58**) on the remote control to select "CONTRAST 40".
5. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "130".
6. Check if the picture is normal.
7. Receive the color bar pattern. (VIDEO Input)
8. Using the remote control, set the brightness and contrast to normal position.
9. Press the INPUT SELECT button on the remote control to set to the AV mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**58**) on the remote control to select "CONTRAST 40".
11. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "136".
12. Check if the picture is normal.
13. Receive the color bar pattern. (S-VIDEO Input)
14. Using the remote control, set the brightness and contrast to normal position.
15. Press the INPUT SELECT button on the remote control to set to the AV(Y/C) mode. Then perform the above adjustments 10~12.
16. Playback the DVD(480i) disc. (COMPONENT Input)
17. Using the remote control, set the brightness and contrast to normal position.
18. Press the INPUT SELECT button on the remote control to set to the COMPONENT mode.
19. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**58**) on the remote control to select "CONTRAST 40".
20. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "134".
21. Check if the picture is normal.

### 2-5: CONTRAST CENTER

1. Place the set in Aging Test for more than 30 minutes.
2. Receive the color bar pattern. (RF Input)
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**50**) on the remote control to select "CONTRAST CENTER".
5. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "98".
6. Check if the picture is normal.
7. Receive the color bar pattern. (VIDEO Input)
8. Using the remote control, set the brightness and contrast to normal position.
9. Press the INPUT SELECT button on the remote control to set to the AV mode.
10. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**50**) on the remote control to select "CONTRAST CENTER".
11. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "104".
12. Check if the picture is normal.
13. Receive the color bar pattern. (S-VIDEO Input)
14. Using the remote control, set the brightness and contrast to normal position.
15. Press the INPUT SELECT button on the remote control to set to the AV(Y/C) mode. Then perform the above adjustments 10~12.
16. Playback the DVD(480i) disc. (COMPONENT Input)
17. Using the remote control, set the brightness and contrast to normal position.
18. Press the INPUT SELECT button on the remote control to set to the COMPONENT mode.
19. Activate the adjustment mode display of **Fig. 1-1** and press the channel button (**50**) on the remote control to select "CONTRAST CENTER".
20. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes "100".
21. Check if the picture is normal.

# ELECTRICAL ADJUSTMENTS

## 2-6: Confirmation of Fixed Value (Step No.)

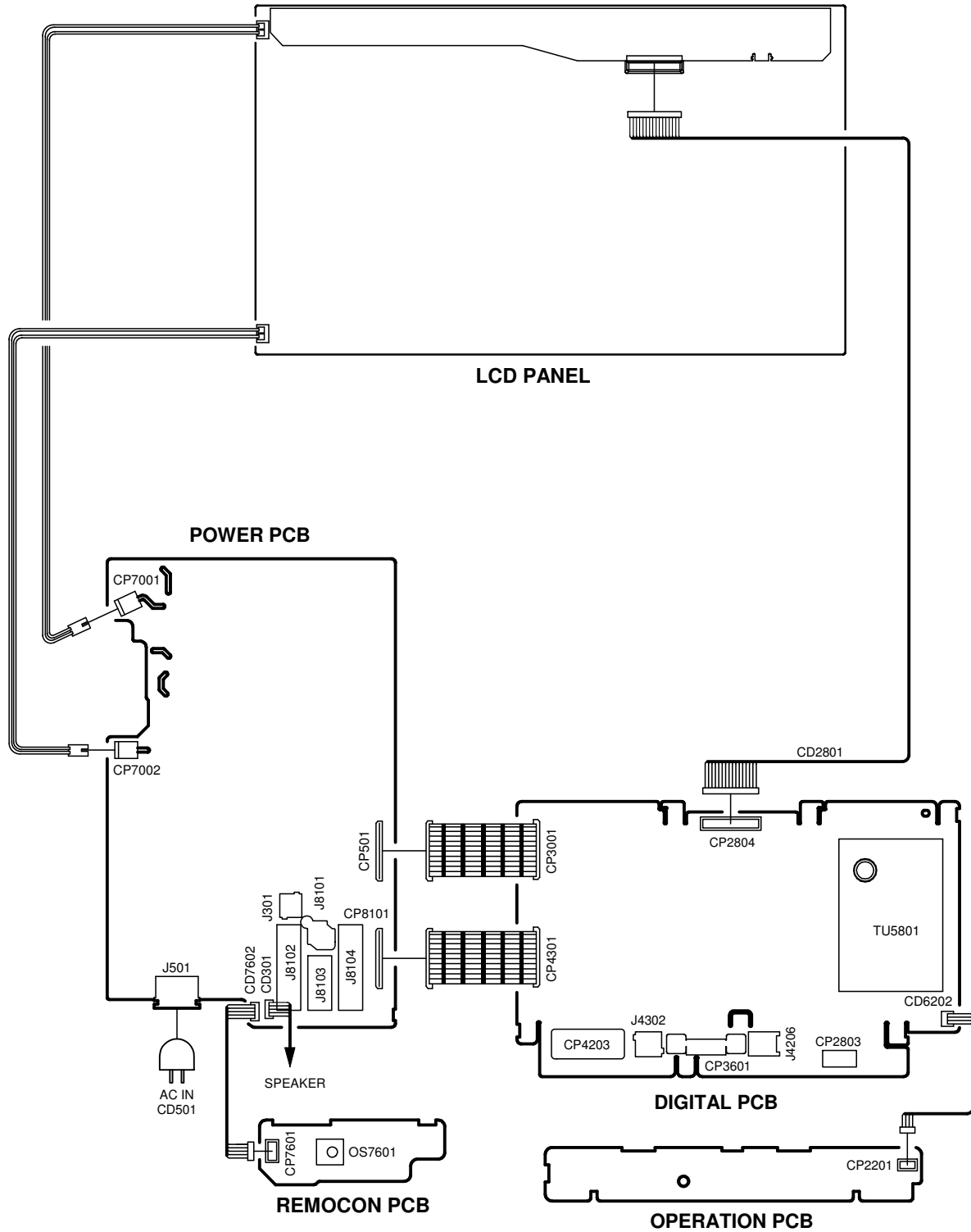
Please check if the fixed values of each of the adjustment item is set correctly referring below. (TV/AV/COMPONENT/HDMI/PC/DTV)

NO.	FUNCTION	TV	AV		COMPONENT				HDMI						PC/HDMI-DVI		PC								DTV				
			CVBS	Y/C	480i	480p	720p	1080i	VGA	480i	480p	720p	1080i	1080p	VGA	XGA	640x480	720x400	800x600	1024x768	1280x768	1280x720	1360x768	480i	480p	720p	1080i	1080P	
		Step No.	Step No.		Step No.				Step No.						Step No.		Step No.								Step No.				
03	R.DRIVE (N)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04	R CUTOFF (N)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
05	G DRIVE (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
06	G CUTOFF (N)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07	B DRIVE (N)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
08	B CUTOFF (N)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
09	R.DRIVE (C)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
10	R CUTOFF (C)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
11	G DRIVE (C)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12	G CUTOFF (C)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13	B DRIVE (C)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
14	B CUTOFF (C)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
15	R.DRIVE (W)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
16	R CUTOFF (W)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
17	G DRIVE (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18	G CUTOFF (W)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19	B DRIVE (W)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
20	B CUTOFF (W)	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
29	BAK LIGHT CENT	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	
30	BAK LIGHT MAX	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	93	
31	BAK LIGHT MIN	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	
32	BRIGHTNESS CENT	130	131	131	132	133	133	133	125	125	125	125	125	125	125	125	133	133	133	133	133	133	133	133	130	130	130	130	
33	BRIGHTNESS MAX	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	
34	BRIGHTNESS MIN	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
35	TINT	56	54	56	60	60	60	60	60	60	60	60	60	60	60	60	50	50	50	50	50	50	50	50	60	60	60	60	
36	SHARP H1 MAX	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	
37	SHARP H1 MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
38	SHARP H2 MAX	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	
39	SHARP H2 MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
40	SHARP H3 MAX	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	
41	SHARP H3 MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
42	SHARP H4 MAX	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	
43	SHARP H4 MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
44	SHARP H5 MAX	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	
45	SHARP H5 MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
46	SHARP V1 MAX	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	
47	SHARP V1 MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
48	SHARP V2 MAX	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	
49	SHARP V2 MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
50	CONTRAST CENTER	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
51	CONTRAST MAX	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
52	CONTRAST MIN	60	60	60	60	60	60	60	60	60	60	60	60	60	61	60	60	60	60	60	60	60	60	60	60	60	60	60	
53	COLOR CENTER	161	156	156	187	192	192	192	150	150	150	128	128	128	130	130	135	135	135	135	135	135	135	135	192	192	192	192	
54	COLOR MAX	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	
55	COLOR MIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
58	CONTRAST 40	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	

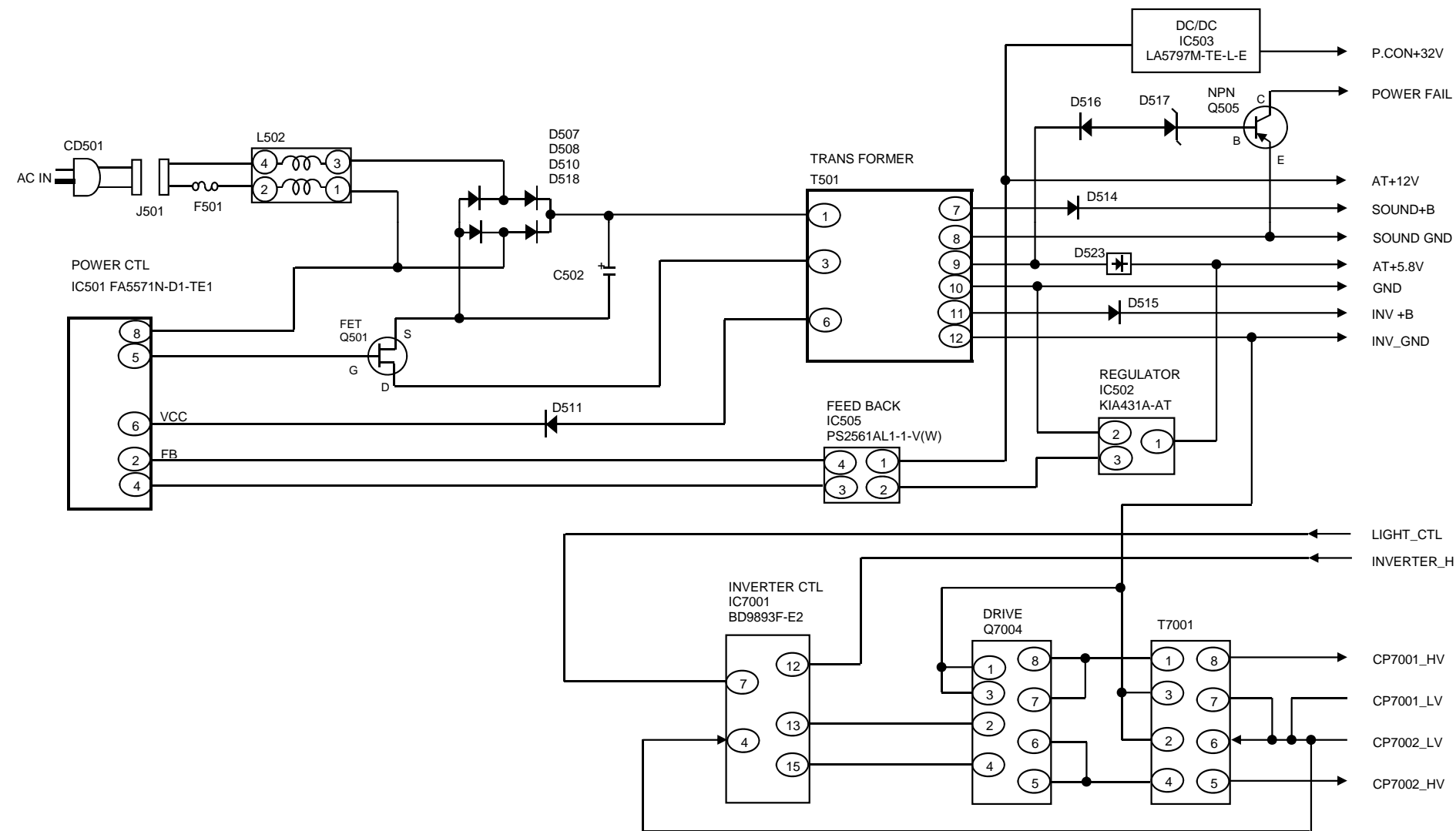
NOTE: For the step no. with \* mark, please adjust it according to the situation of the set.

## ELECTRICAL ADJUSTMENTS

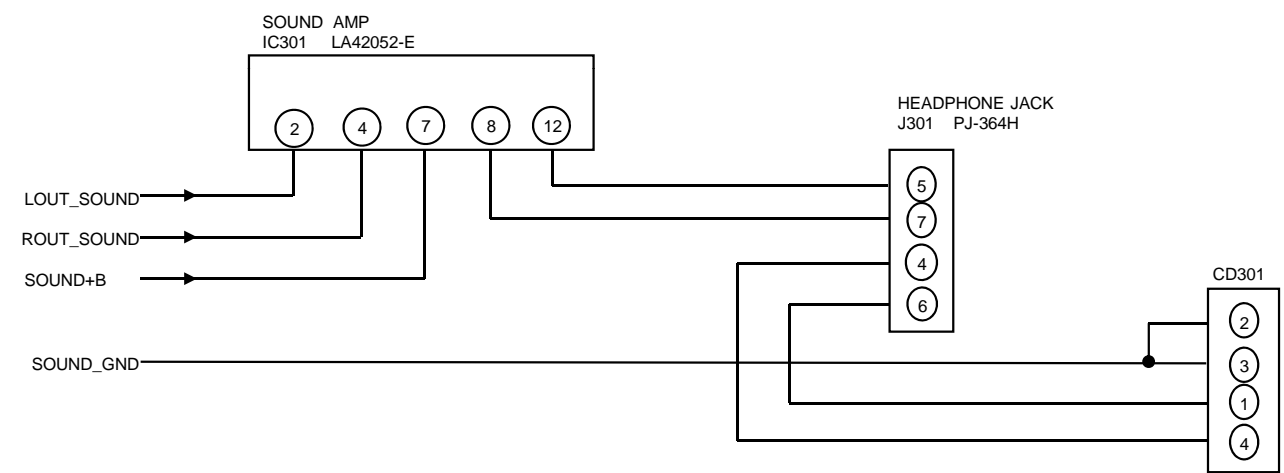
### 3. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



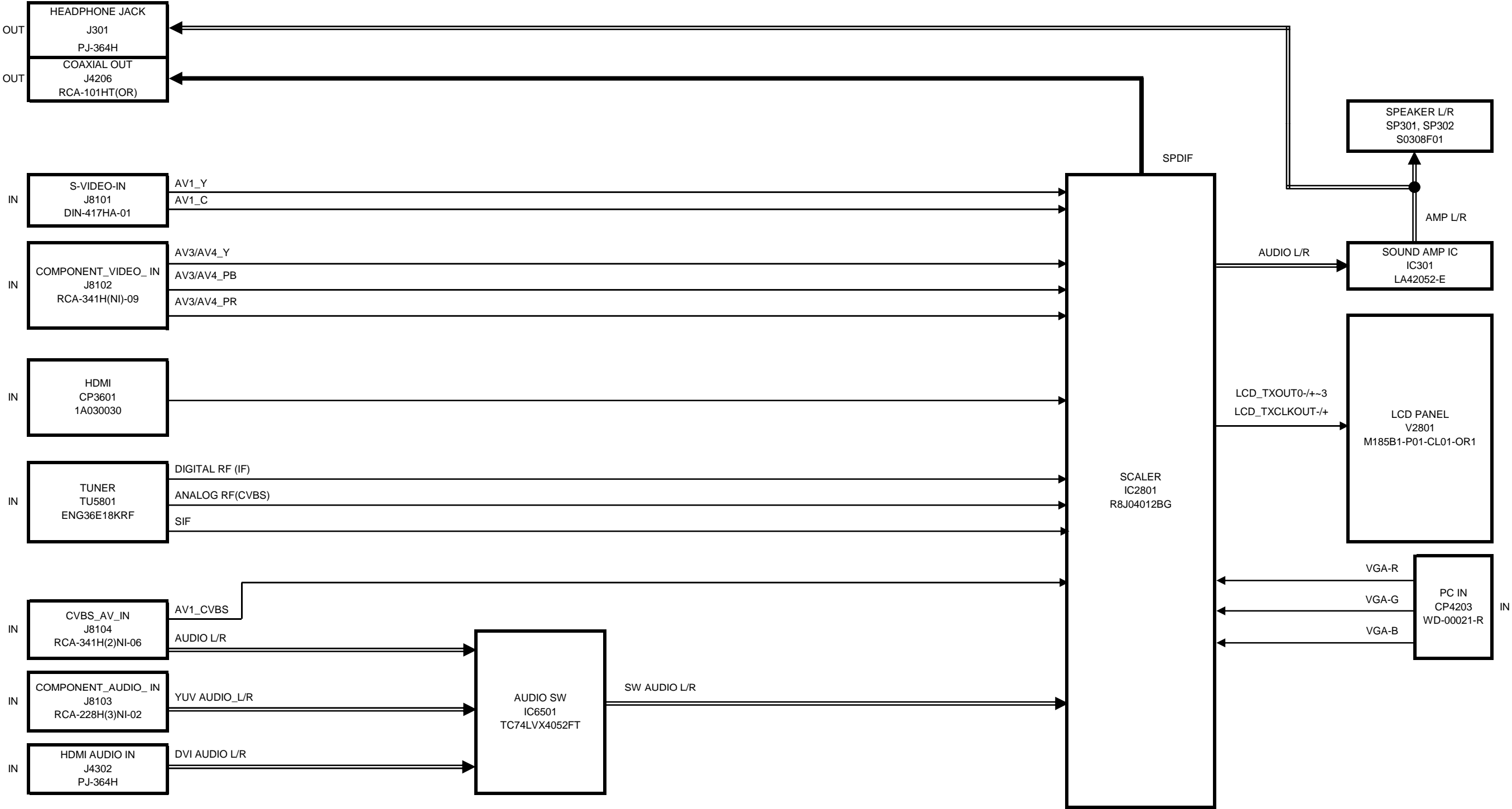
POWER BLOCK DIAGRAM



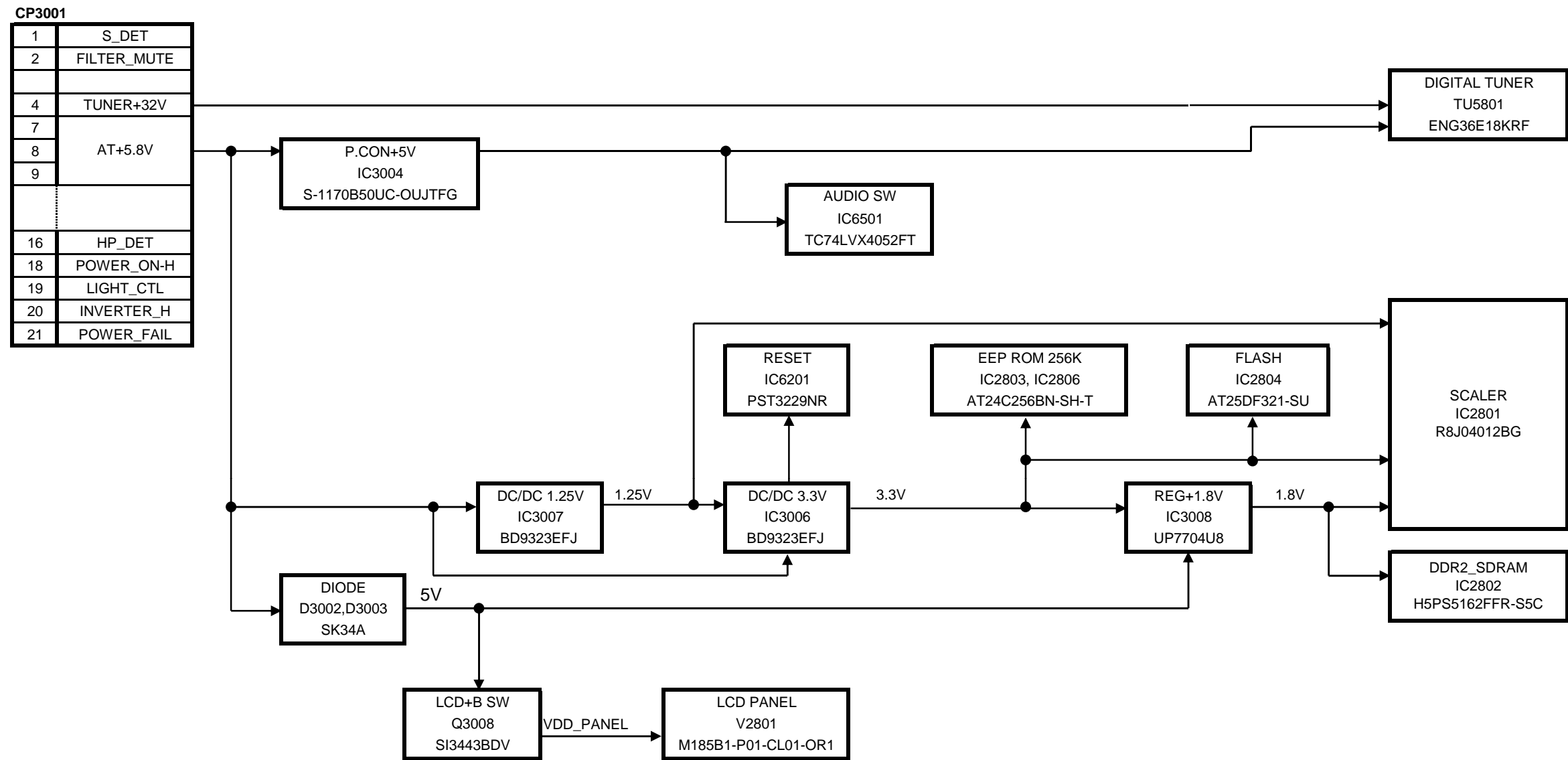
SOUND AMP BLOCK DIAGRAM



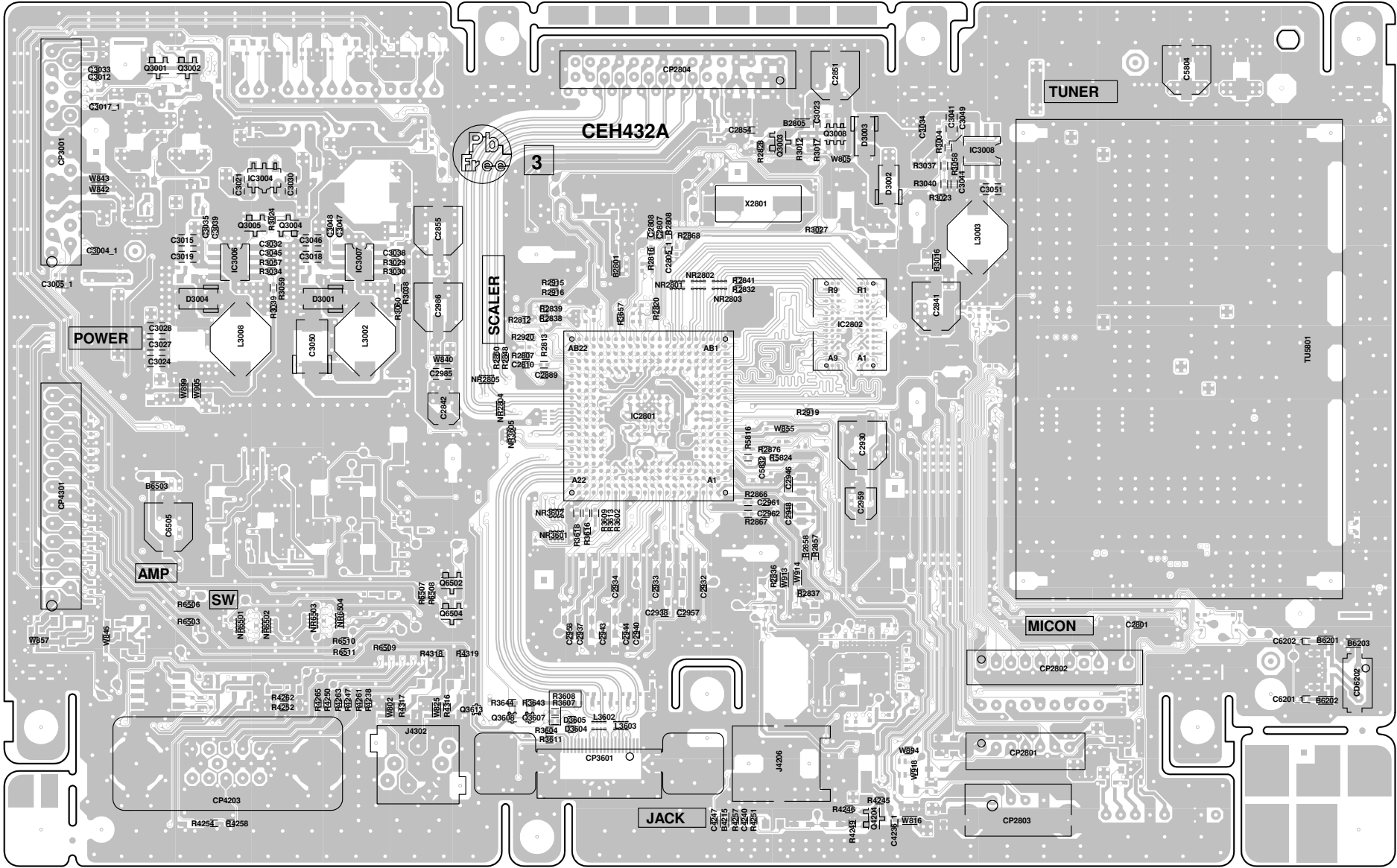
SIGNAL (DIGITAL PCB) BLOCK DIAGRAM



## POWER (DIGITAL PCB) BLOCK DIAGRAM



PRINTED CIRCUIT BOARDS  
DIGITAL (TOP SIDE)

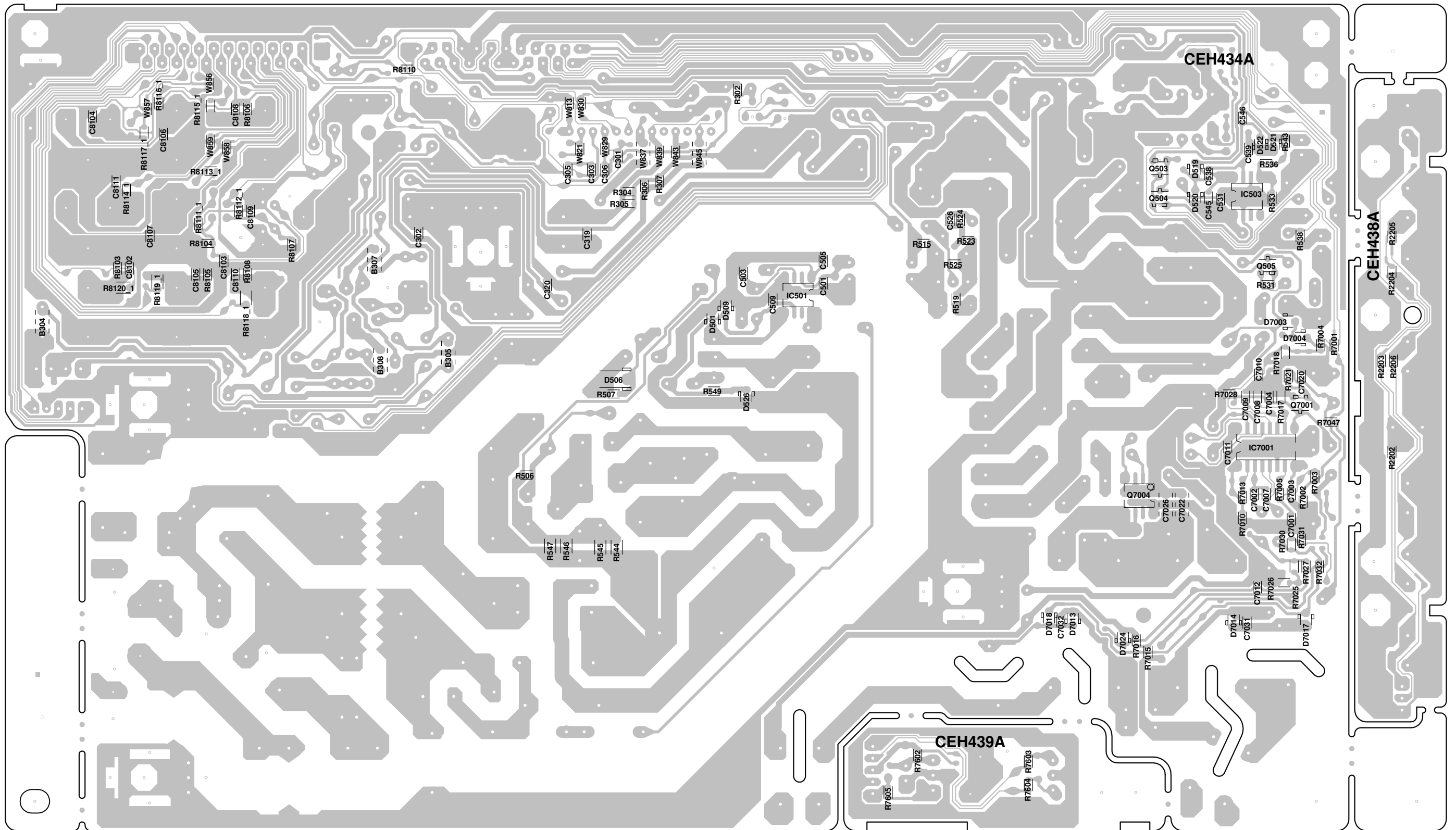








**PRINTED CIRCUIT BOARDS  
POWER/OPERATION/REMOCON (CHIP MOUNTED PARTS)  
SOLDER SIDE**



**FLASH SCHEMATIC DIAGRAM (DIGITAL PCB)**

**FROM FIRM UPDATE**

USB\_UPDATE  
CP2803 USB-A1D102F-4B4N

1 +5V  
2 USBN  
3 USBP  
4 GND

D5.0V  
USB\_M  
USB\_P

**EEPROM/DEBUG\_JIG**  
CP2801 A2001WV-7A

7 D3.3V  
6 TX  
5 RX  
4 IIC\_OFF  
3 SDA  
2 SCL  
1 GND

D3.3V  
DEB\_TX  
DEB\_RX  
IIC\_DATA  
IIC\_CLK

**FROM TO SCALER**

DEB\_TX  
DEB\_RX

**FROM TO REGULATOR**

POWER\_FAIL  
D5.0V  
A3.3V  
PANEL\_POWER-H  
LIGHT\_CTL  
BLON  
D3.3V  
GND

**SCALER IC**  
IC2801 R8J04012BG

AB10 RESET\_N  
V21 ASEMDO  
V20 ASEBRKAK\_N  
U19 TDO  
V19 TDI  
T19 TMS  
U20 TCK  
V22 TRST\_N

**FLASH IC 32M IC**  
IC2804 AT25DF321-SU

CS  
VCC  
HOLD  
SCK  
SI

**EEPROM ROM 256K IC**  
IC2805 AT24C256N-SH-T

SDA  
SCL  
WP  
Vcc  
A1  
A0

**EEPROM ROM 256K IC**  
IC2806 AT24C256N-SH-T

Vcc  
WP  
SCL  
SDA  
A0  
A1  
A2  
Vss

**CAUTION**

SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.


**ATTENTION**

LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ, N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

**NOTE:** THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

**NOTE:** THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

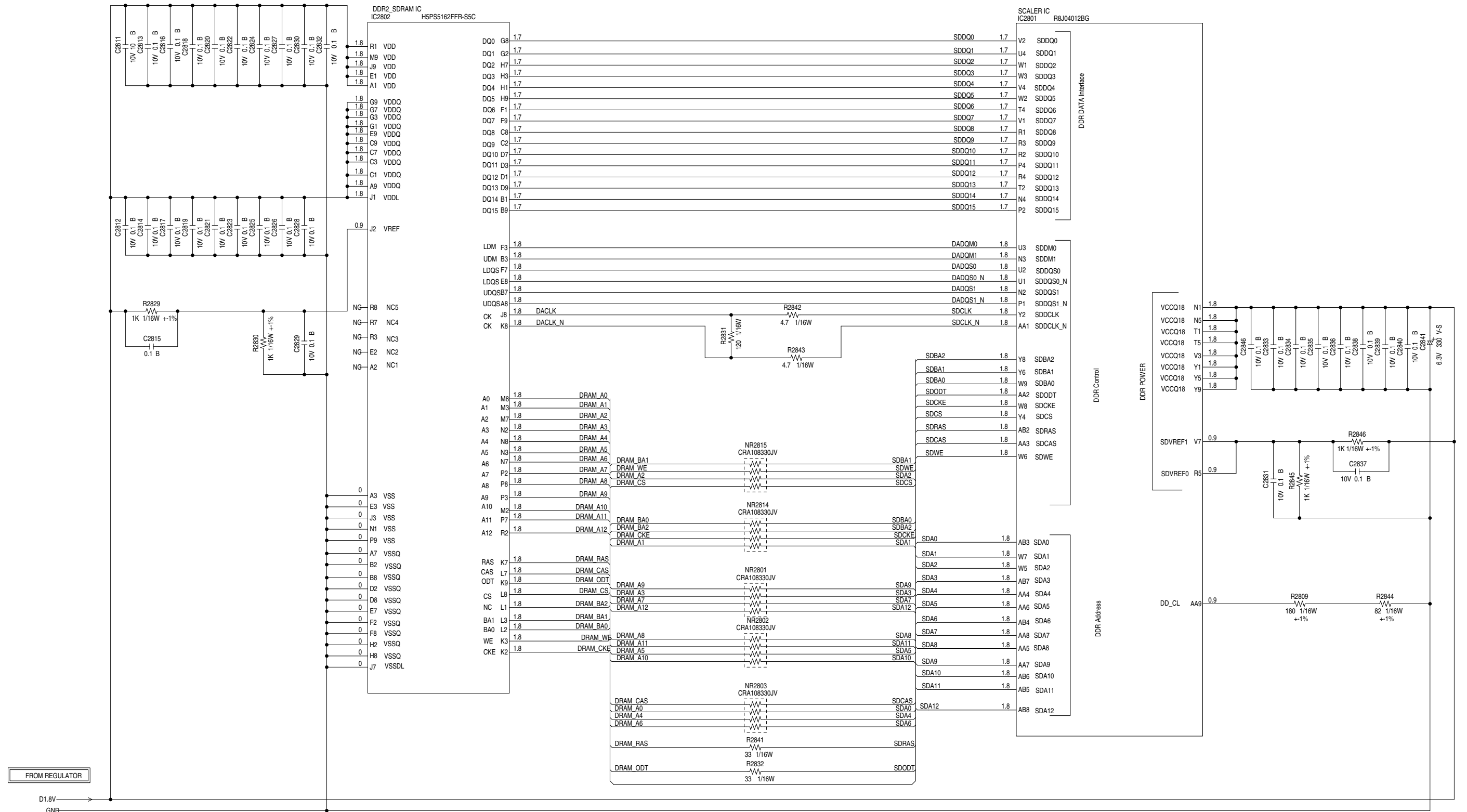
2014-01-20 V1.0

**ATTENTION** LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES

PCBDH0  
CEH432

## DDR SCHEMATIC DIAGRAM

(DIGITAL PCB)

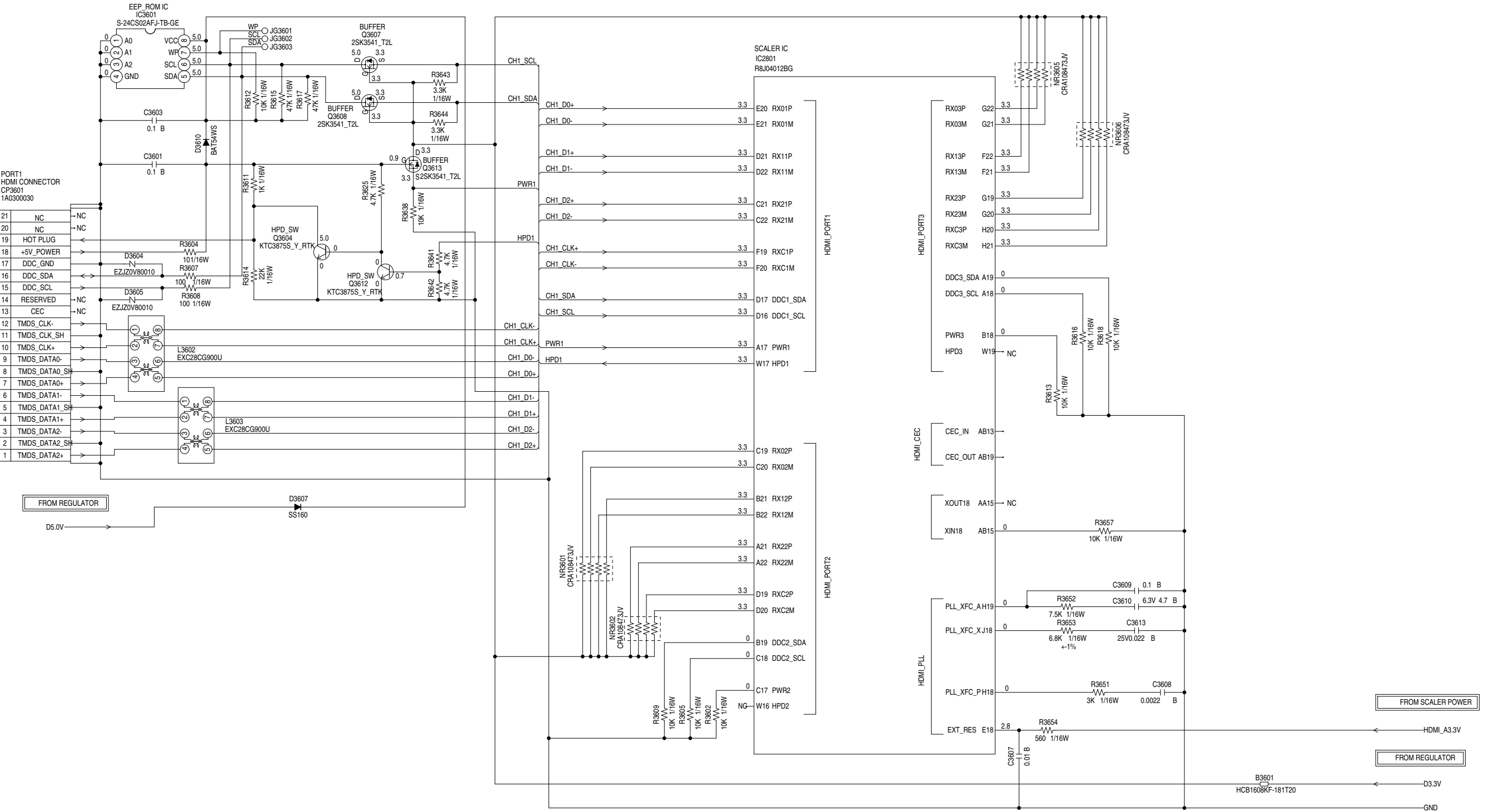


NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

PCBDH0  
CEH432

HDMI SCHEMATIC DIAGRAM  
(DIGITAL PCB)



NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE


NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED  
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST  
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

**CAUTION** SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

**ATTENTION** LES PIECES REPARÉES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

**ATTENTION** LES PIÈCES REPARÉES PAR UN  ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIÈCES

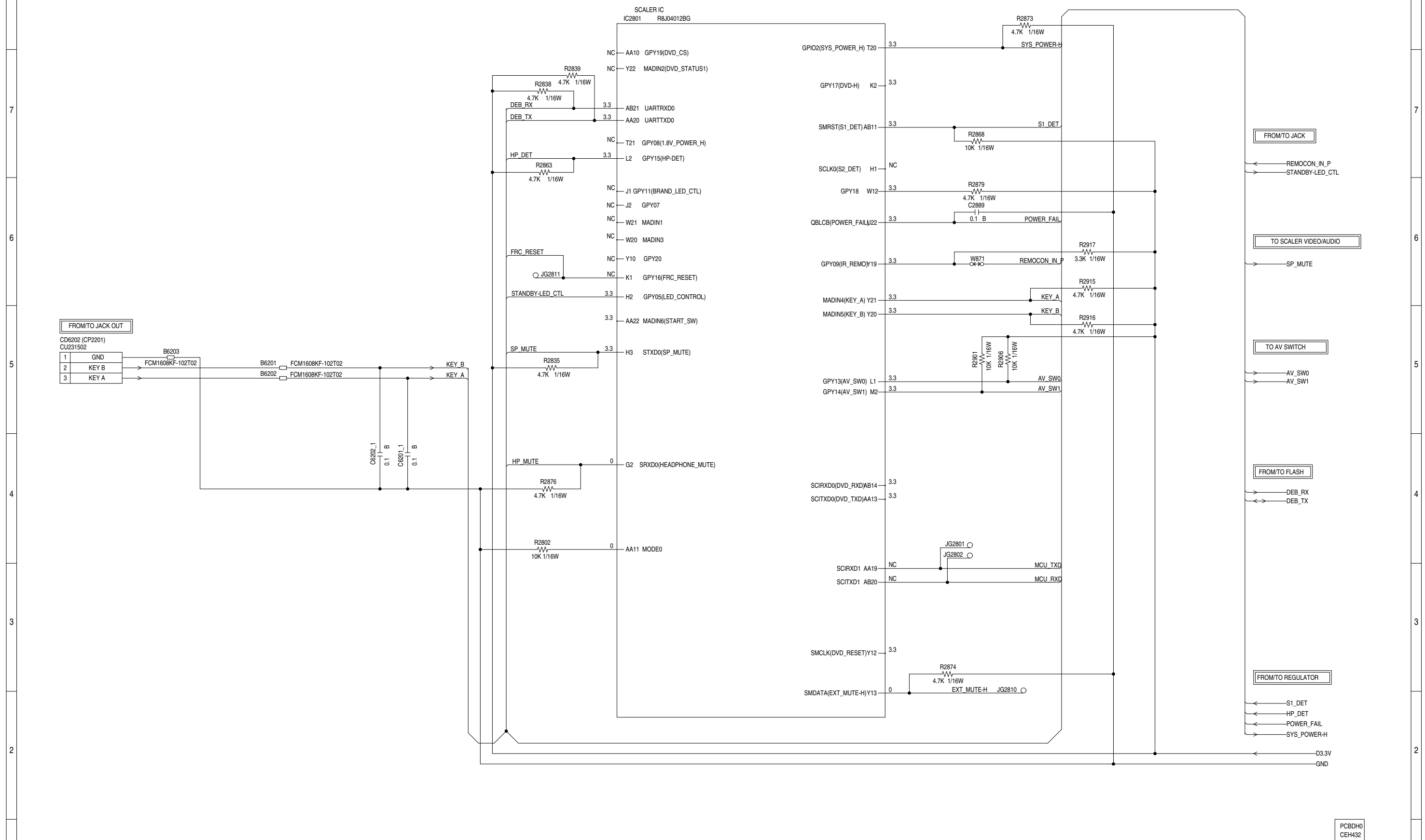
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

FROM/TO PANEL	
FOR 19WLCD	
CP2804	
A2006WV0-2X15P	
NC	NC 30
NC	NC 29
→	RX0- 28
	GND 27
→	RX1+ 26
	RX2- 25
	GND 24
→	RXCCLK+ 23
	RX3- 22
	GND 21
NC	NC 20
	GND 19
	GND 18
	VCC+5V 17
→	VCC+5V 16
NC	NC 15
	GND 14
→	RX0+ 13
	RX1- 12
	GND 11
	RX2+ 10
	RXCCLK- 9
	GND 8
	RX3+ 7
NC	NC 6
NC	NC 5
	GND 4
→	VCC+5V 3
	VCC+5V 2
→	VCC+5V 1

LCD PANEL  
V2801  
M185B1-P01-CL01-OR1  
CD2801  
EA2U2510

PCBDH0  
CEH432

SCALER SCHEMATIC DIAGRAM  
(DIGITAL PCB)



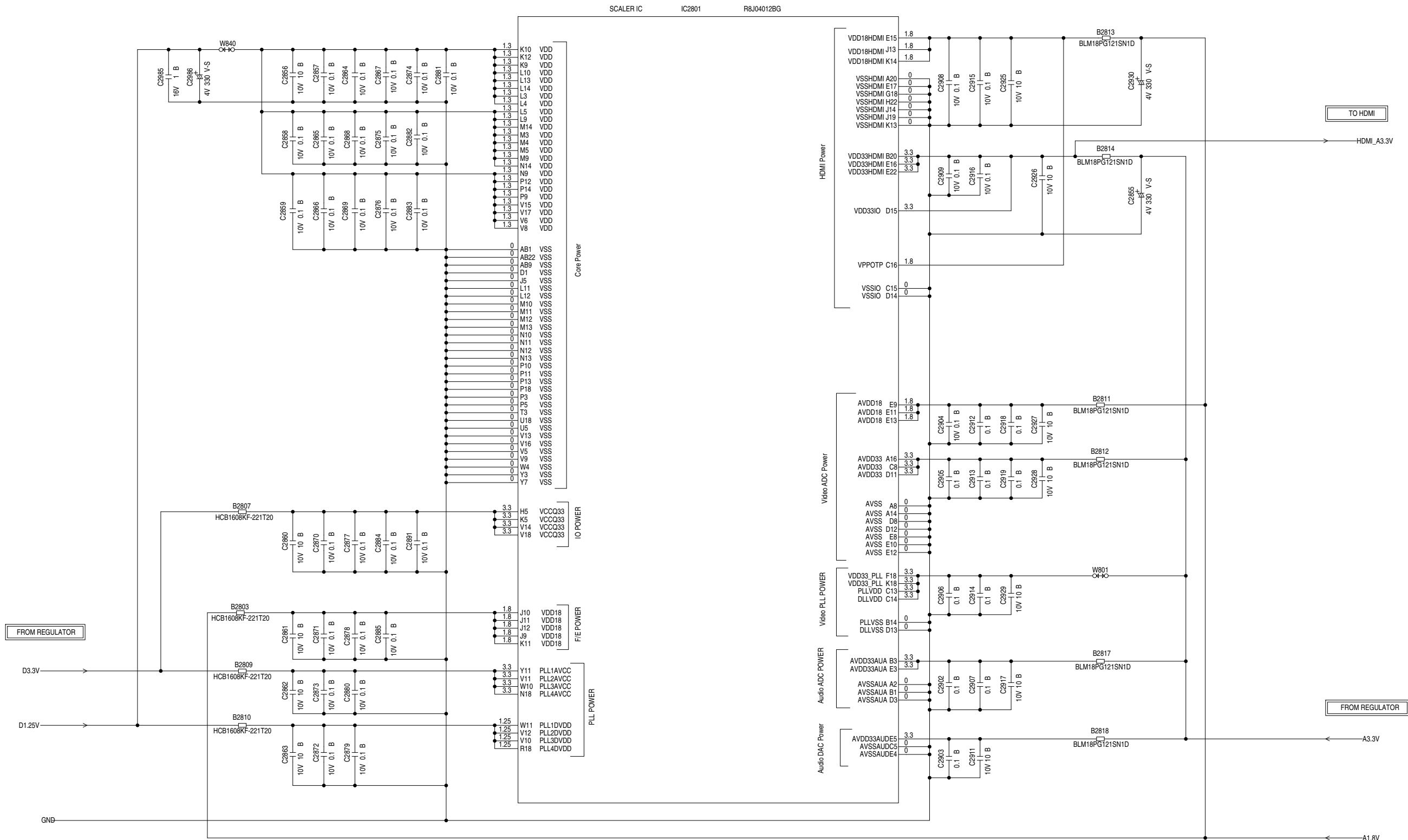
NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED  
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST  
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

PCBDH0  
CEH432



(DIGITAL PCB)

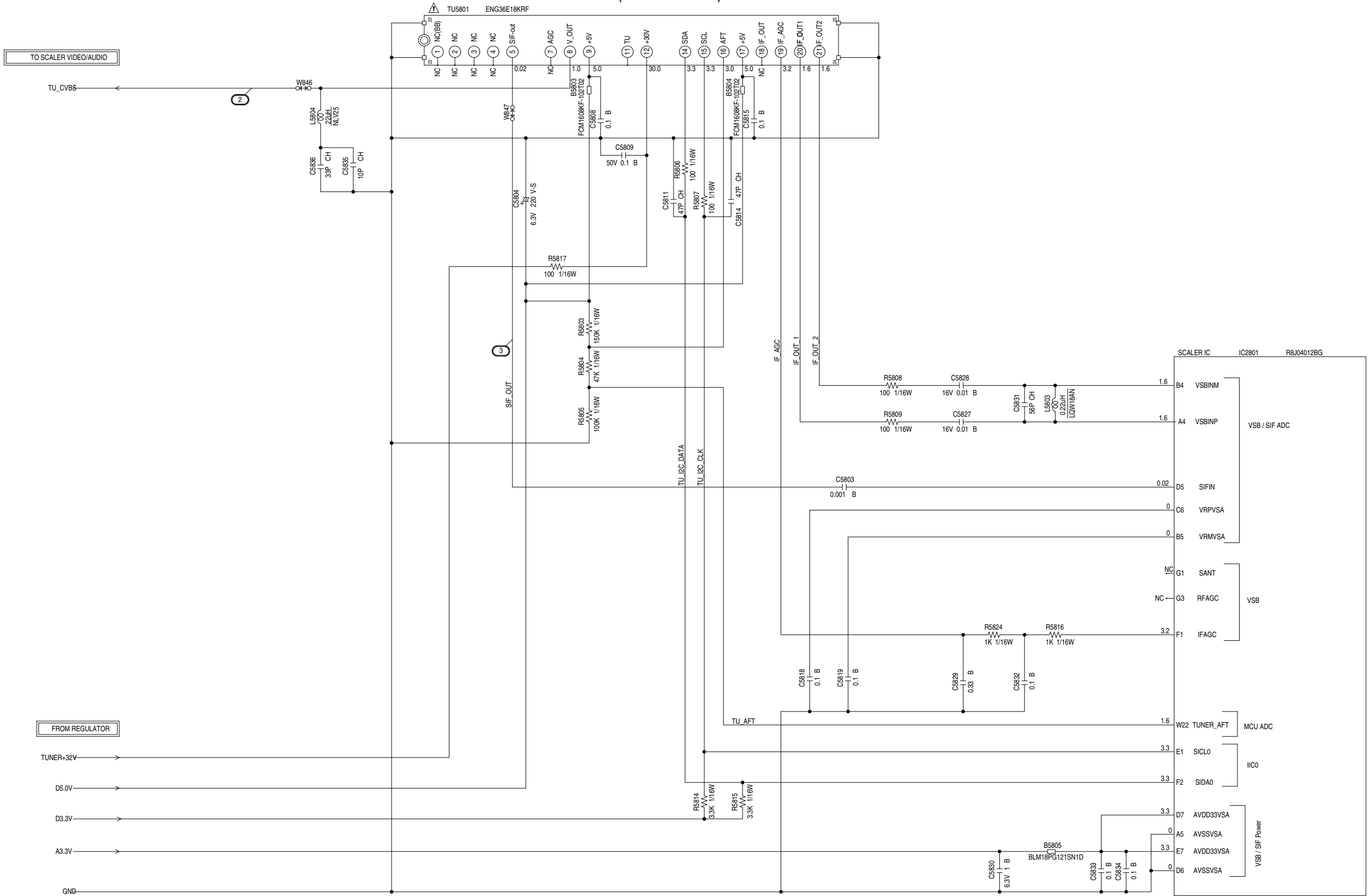


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

PCBDH0  
CEH432

TUNER SCHEMATIC DIAGRAM  
(DIGITAL PCB)



CAUTION SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY .

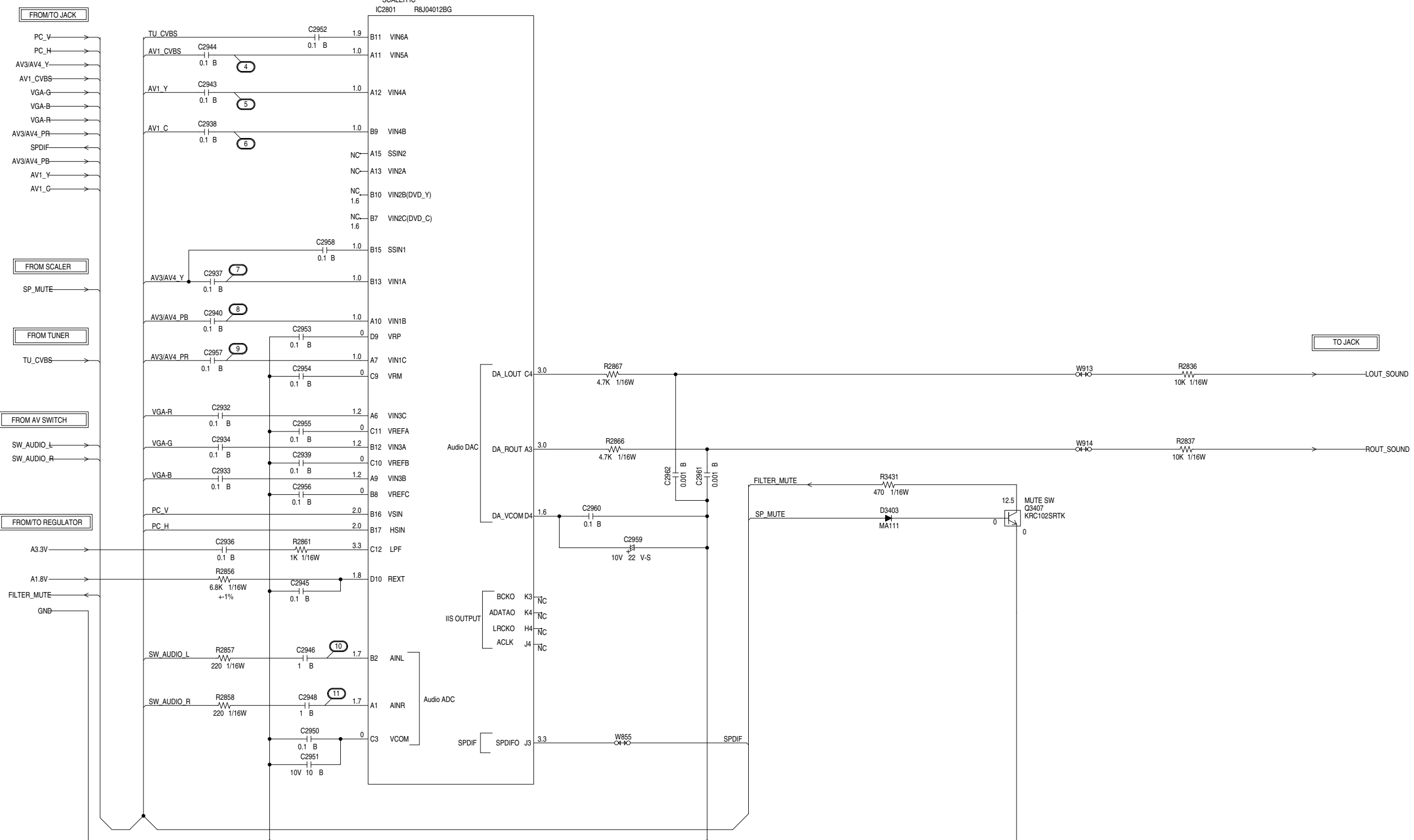
ATTENTION LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

PCBDH0  
CEH432

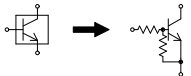
(DIGITAL PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED  
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST  
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR

PCBDH0  
CEH432

JACK SCHEMATIC DIAGRAM  
(DIGITAL PCB)

8

7

6

5

4

3

2

1

8

7

6

5

4

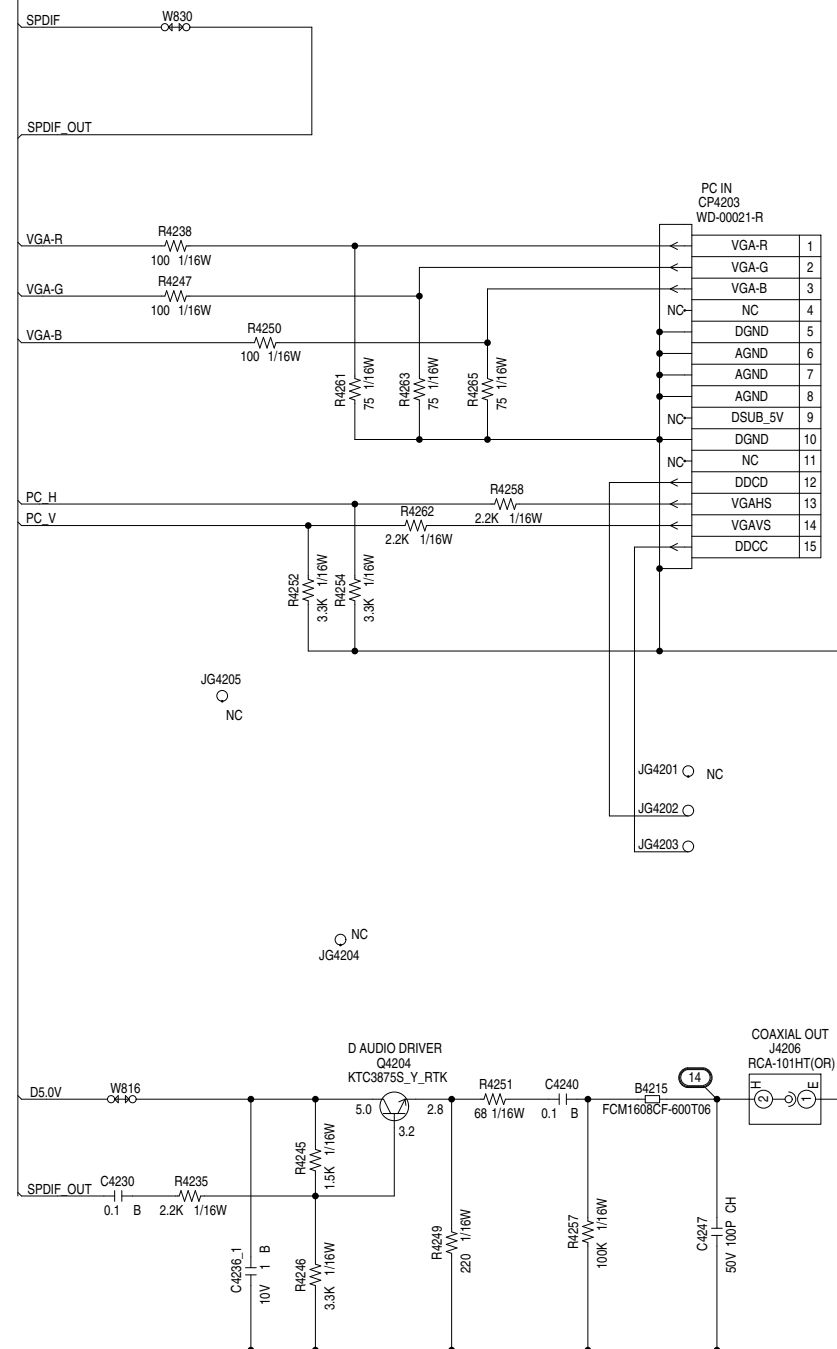
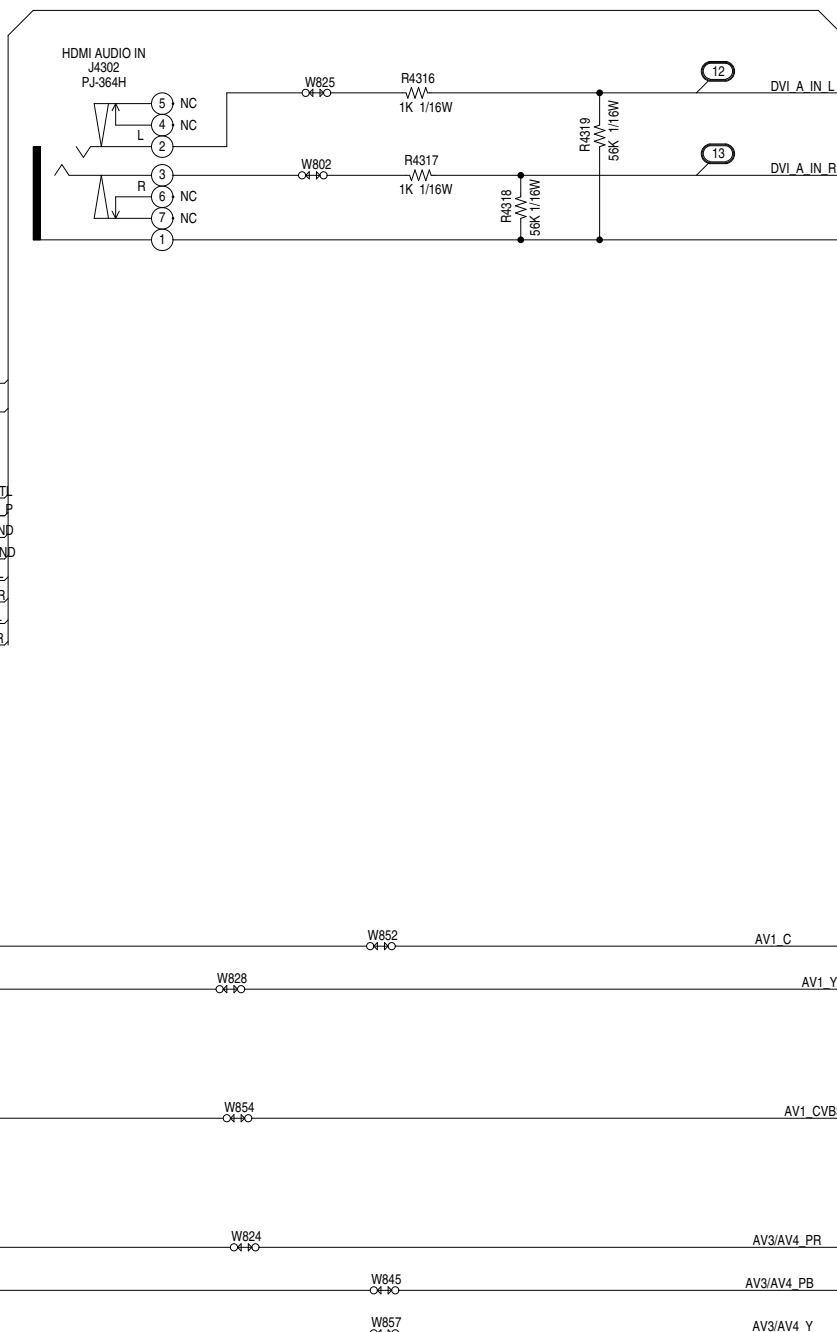
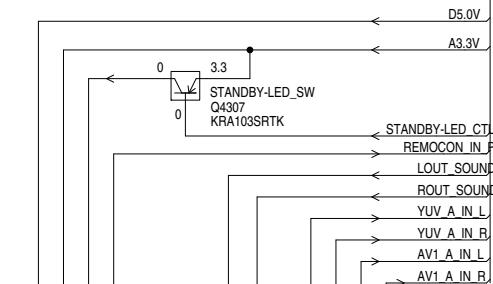
3

2

1

FROM/TO JACK OUT

CP4301 (CP8101)
TWG-P23P-A1
23 LOUT
22 GND
21 ROUT
20 GND
19 AV1_C
18 GND
17 AV1_Y
16 GND
15 YUV_L_IN
14 GND
13 YUV_R_IN
12 GND
11 CVBS1
10 GND
9 AV1_L_IN
8 POWER_ON_LED
7 AV1_R_IN
6 STANDBY_LED
5 AV3_V
4 AT+3.3V
3 AV3_U
2 REMOCON_IN
1 AV3_Y



FROM REGULATOR

A3.3V  
D5.0V  
GND

FROM/TO SCALER

STANDBY-LED\_CTL  
REMOCON\_IN\_P

TO AV SWITCH

DVI\_A\_IN\_L  
DVI\_A\_IN\_R  
AV1\_A\_IN\_L  
AV1\_A\_IN\_R  
YUV\_A\_IN\_L  
YUV\_A\_IN\_R

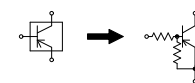
FROM/TO SCALER VIDEO/AUDIO

PC\_V  
PC\_H  
VGA-R  
VGA-G  
VGA-B  
SPDIF  
AV1\_Y  
AV1\_C  
AV1\_CVBS  
AV3/AV4\_Y  
AV3/AV4\_PB  
AV3/AV4\_PR  
LOUT\_SOUND  
ROUT\_SOUND

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

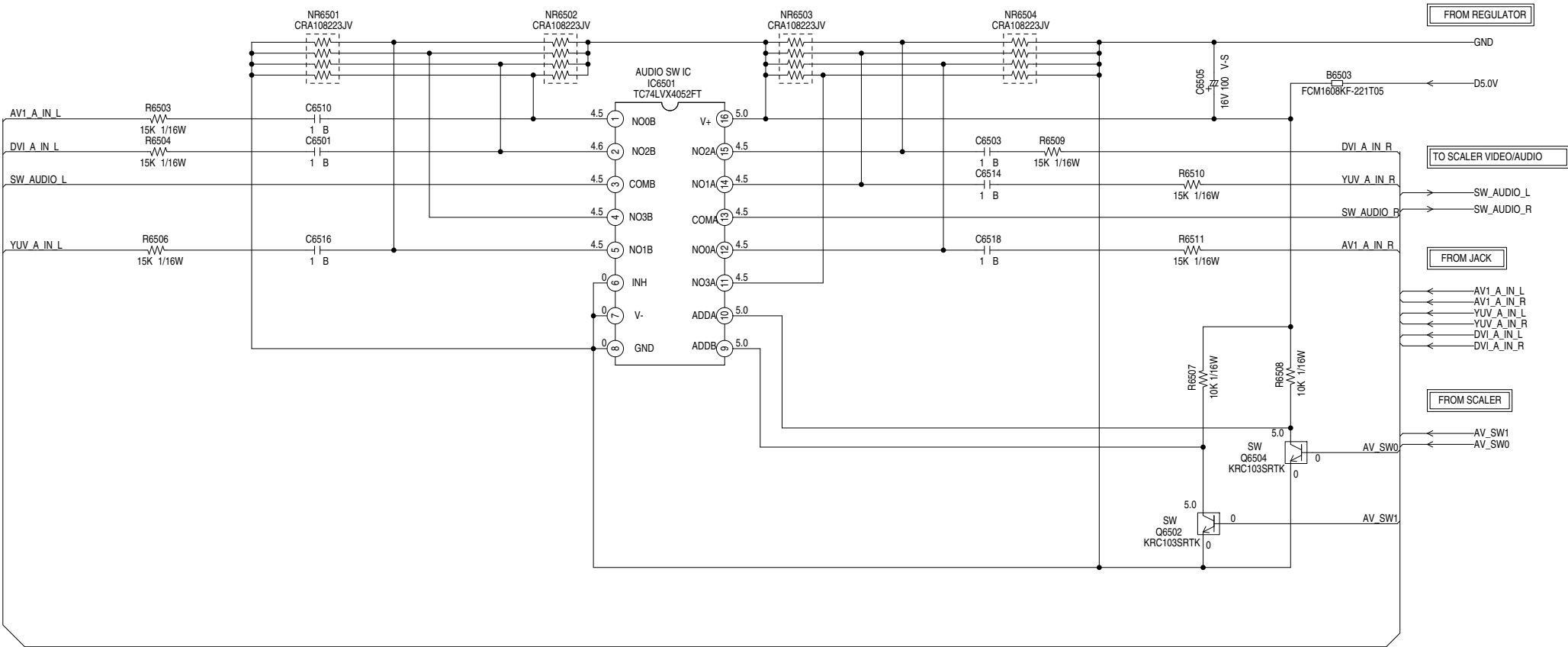
NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED  
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST  
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: DIGITAL TRANSISTOR



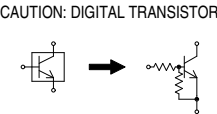
PCBDH0  
CEH432

AV SWITCH SCHEMATIC DIAGRAM  
(DIGITAL PCB)



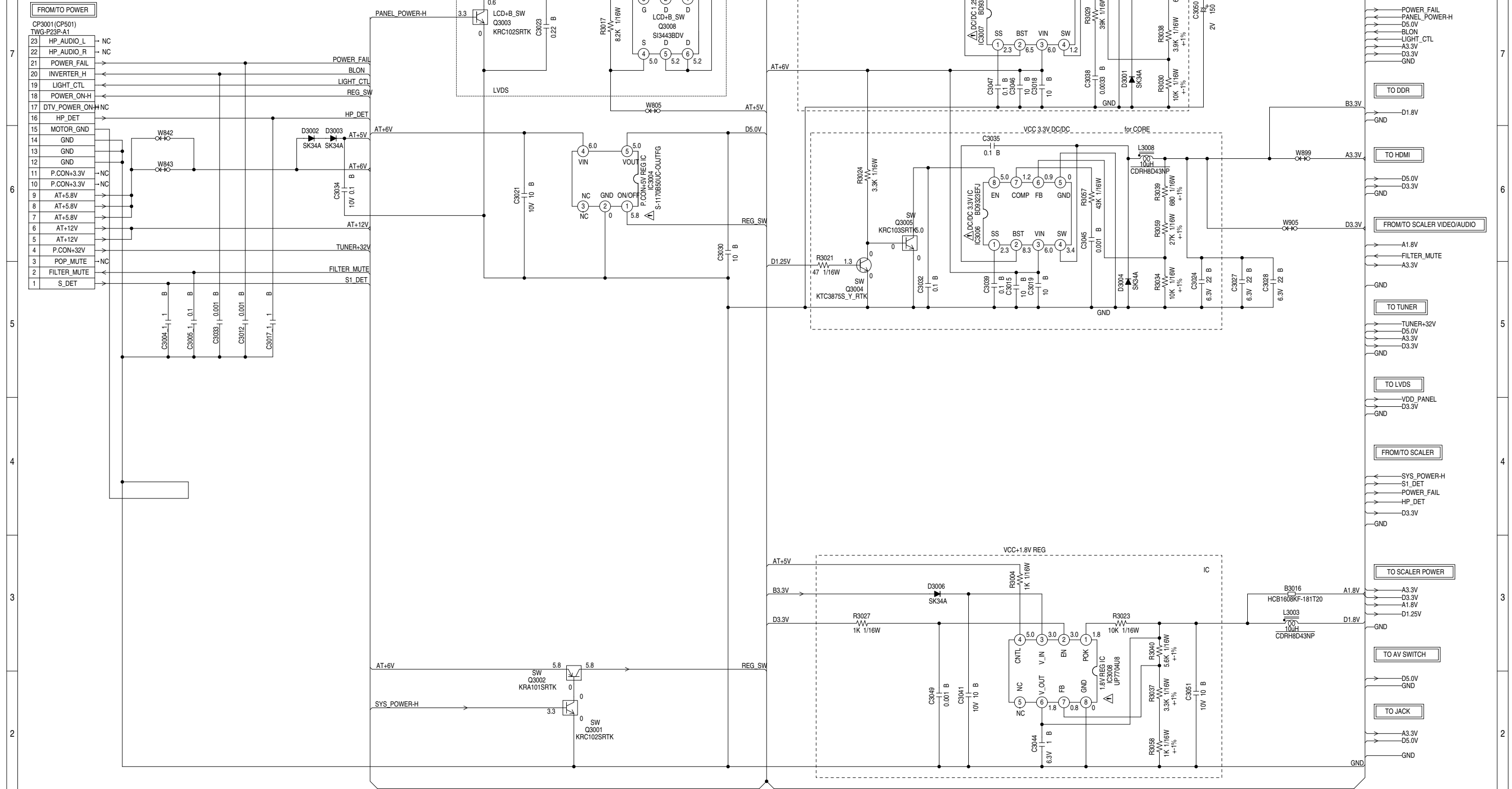
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED  
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST  
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.



PCBDH10  
CEH432

# REGULATOR SCHEMATIC DIAGRAM (DIGITAL PCB)



**CAUTION** SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

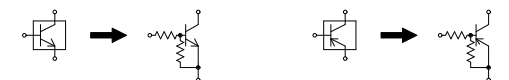
**ATTENTION** LES PIECES REPARÉES PAR UN ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DÉCRITES DANS LA NOMENCLATURE DES PIECES

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

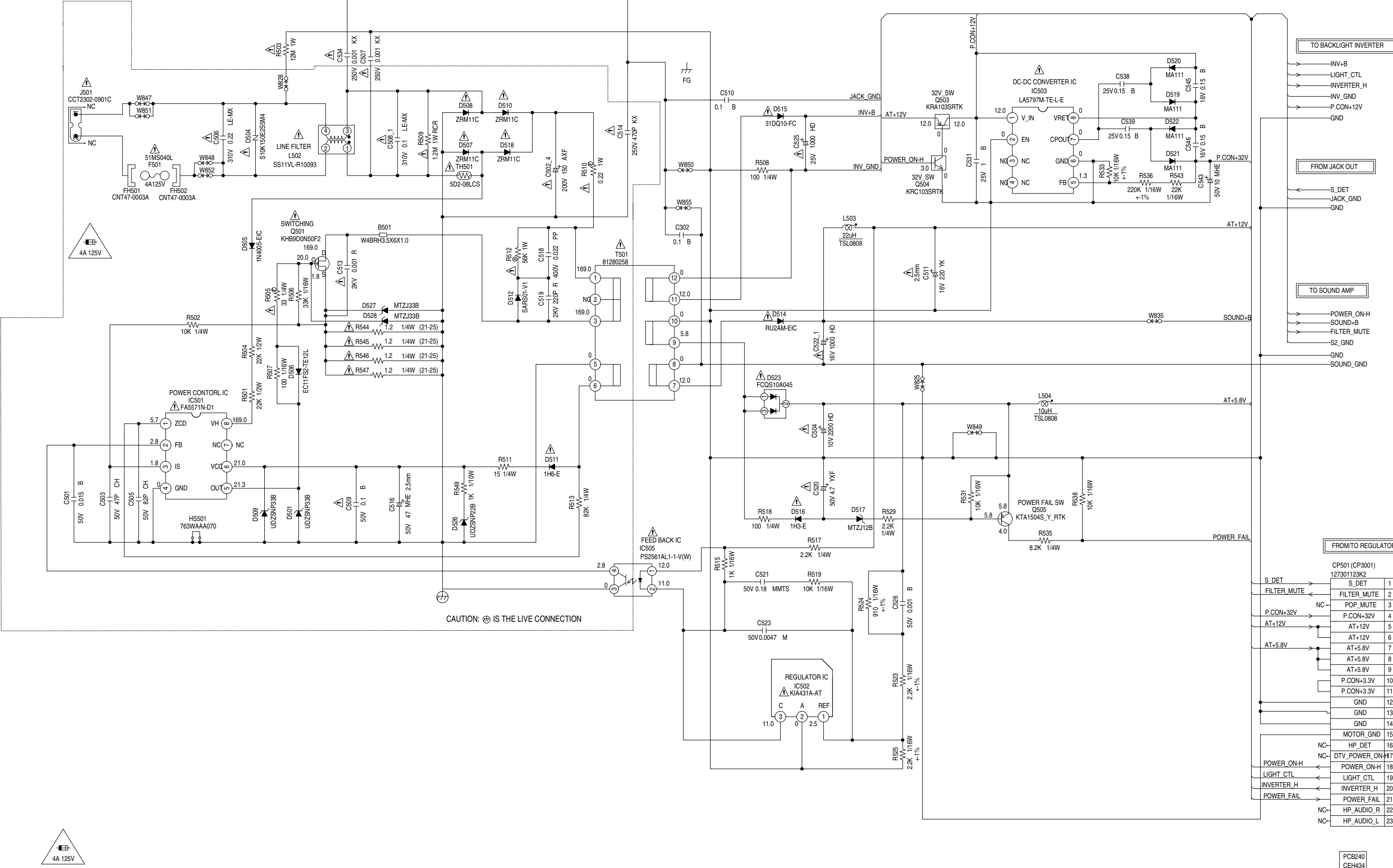
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR




PCBDH0  
CEH432


(POWER PCB)



**CAUTION:** FOR CONTINUED PROTECTION AGAINST FIRE HAZARD  
REPLACE ONLY WITH THE SAME TYPE FUSE  
4A 125V (F501).

**ATTENTION:** POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE  
N'UTILISER QUE DES FUSIBLE DE MEME TYPE  
4A 125V (F501).

**CAUTION** SINCE THESE PARTS MARKED BY  ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY .

**ATTENTION** LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES

NOTE:THE RESISTOR MARKED F IS FUSE RESISTOR.  
THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP  
IS NON POLAR ONE.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED  
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST  
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL

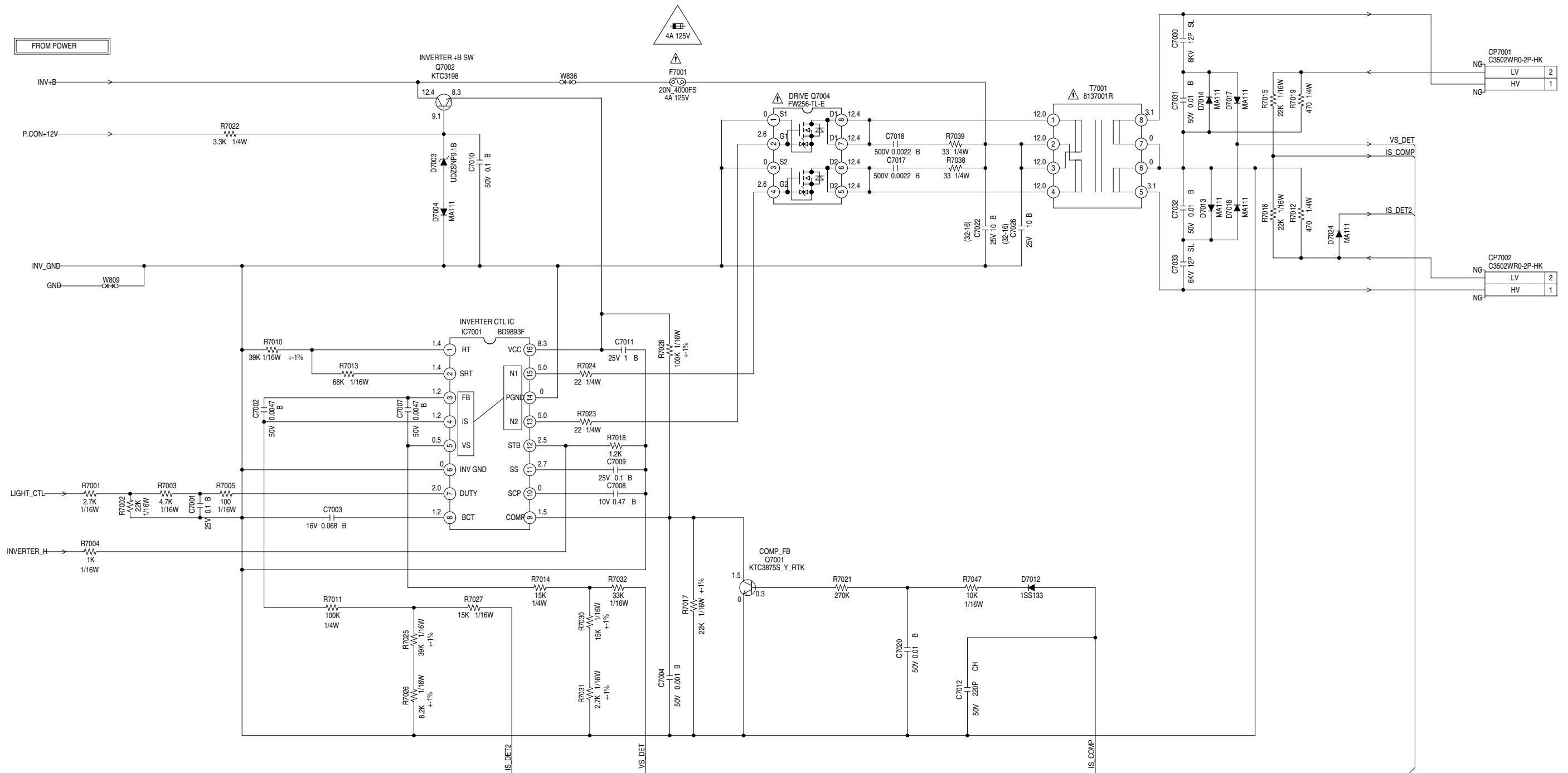
CAUTION: DIGITAL TRANSISTOR


CAUTION: DIGITAL TRANSISTOR

CP501 (CP3001)		
127301123K2		
S_DET	→	S_DET 1
FILTER MUTE	→	FILTER_MUTE 2
	NC	POP_MUTE 3
P.CON+32V	→	P.CON+32V 4
AT+12V	→	AT+12V 5
	→	AT+12V 6
AT+5.8V	→	AT+5.8V 7
	→	AT+5.8V 8
	→	AT+5.8V 9
	→	P.CON+3.3V 10
	→	P.CON+3.3V 11
	→	GND 12
	→	GND 13
	→	GND 14
	→	MOTOR_GND 15
	NC	HP_DET 16
	NC	DTV_POWER_ON# 17
POWER_ON-H	←	POWER_ON-H 18
LIGHT_CTL	←	LIGHT_CTL 19
INVERTER_H	←	INVERTER_H 20
POWER_FAIL	→	POWER_FAIL 21
	NC	HP_AUDIO_R 22
	NC	HP_AUDIO_L 23

PCB240  
CEH434

## BACKLIGHT INVERTER SCHEMATIC DIAGRAM




 **CAUTION:** FOR CONTINUED PROTECTION AGAINST FIRE HAZARD.  
REPLACE ONLY WITH THE SAME TYPE FUSE 4A 125V(F7001)

**ATTENTION:** POUR UNE PROTECTION CONTINUE LES RISQUES D'INCENDIE  
N'UTILISER QUE DES FUSIBLE DE MEME TYPE 4A 125V(F7001)

**CAUTION:** F7001 IS MANUFACTURED BY SKYGATE CO.,LTD., TYPE 20N.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED  
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST  
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

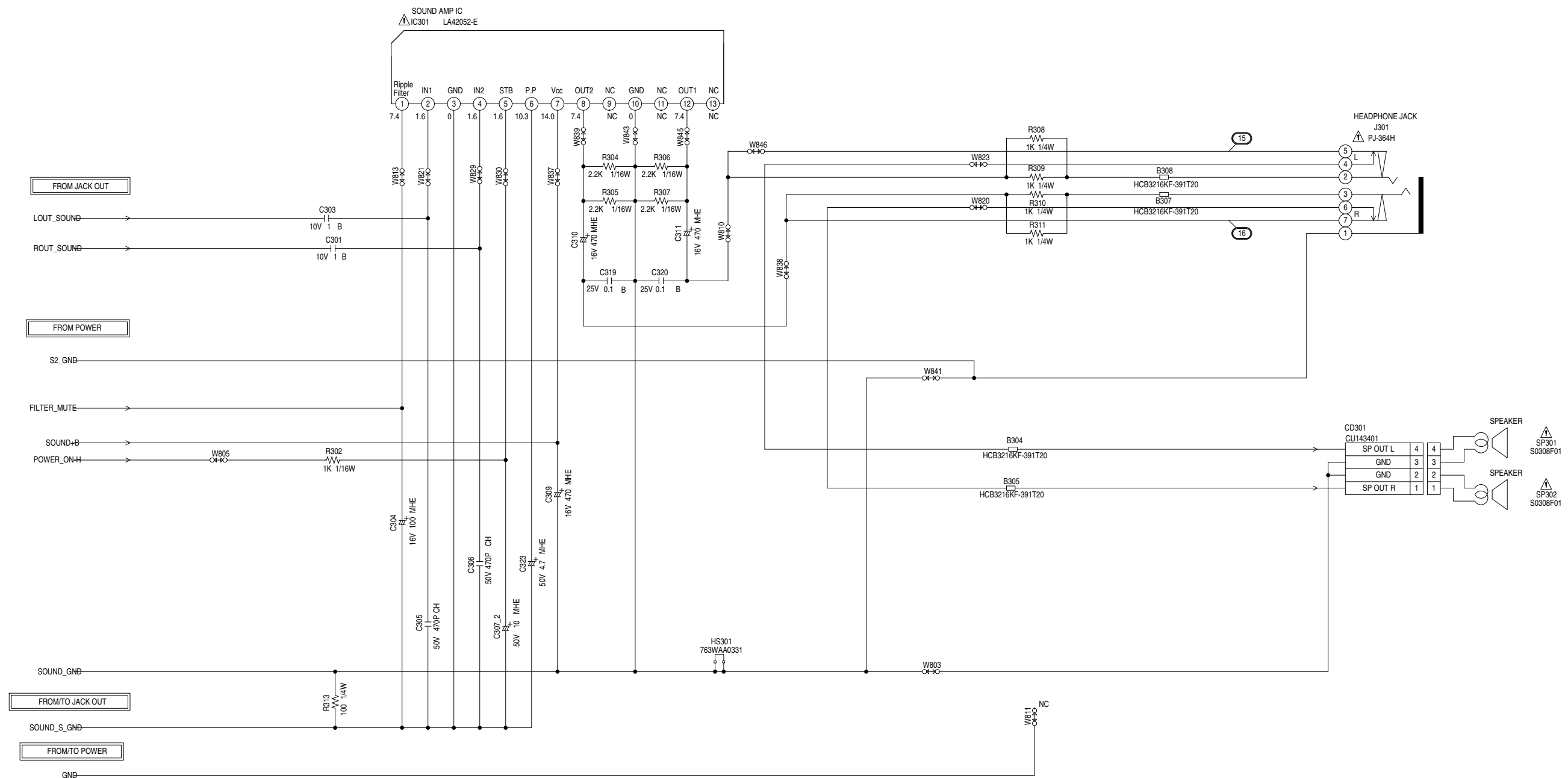
**ATTENTION** LES PIÈCES RÉPARÉES PAR UN  ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES

**CAUTION** SINCE THESE PARTS MARKED BY  ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

PCB240  
CEH434



SOUND AMP SCHEMATIC DIAGRAM  
(POWER PCB)



CAUTION SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

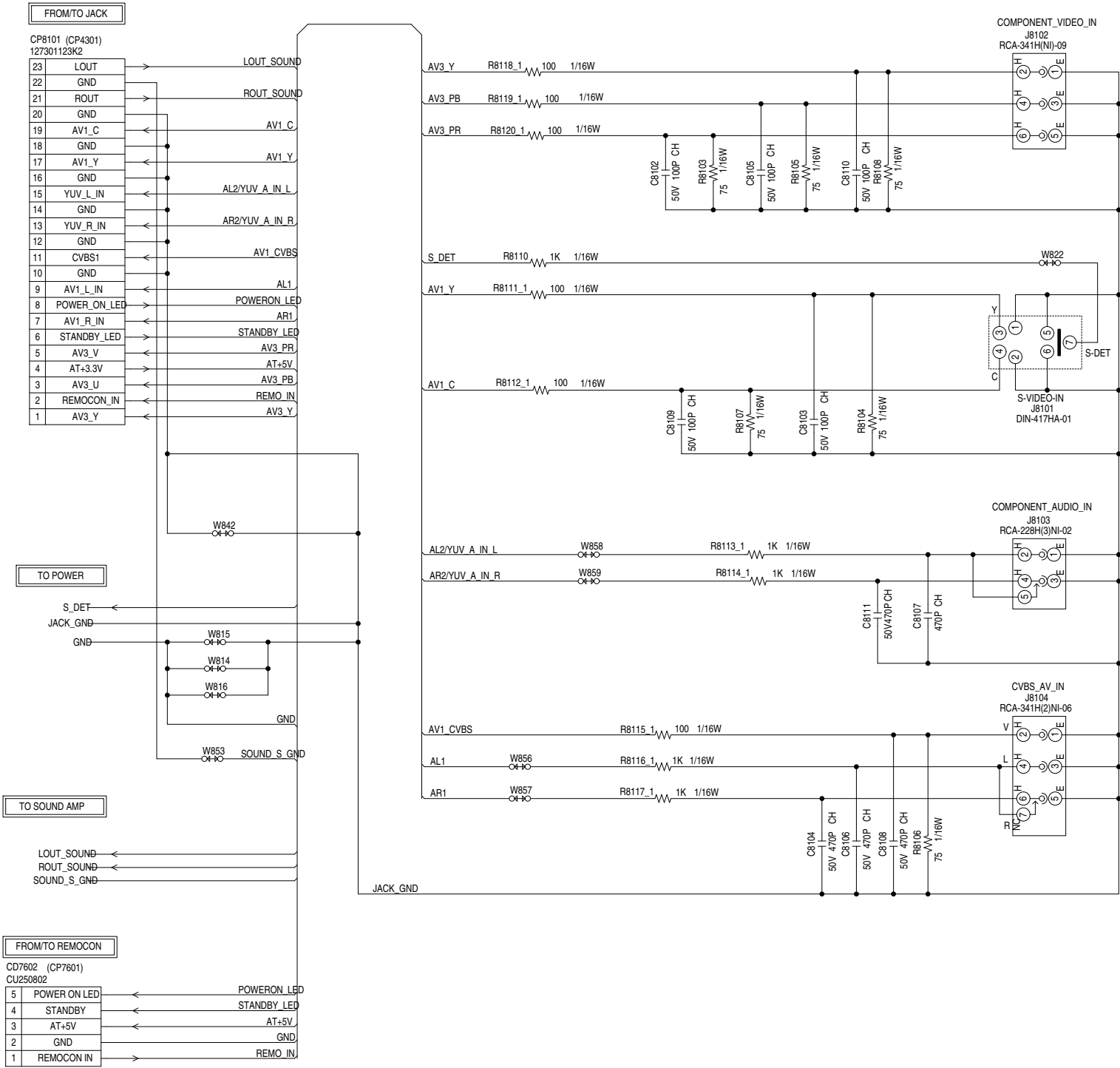
ATTENTION LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

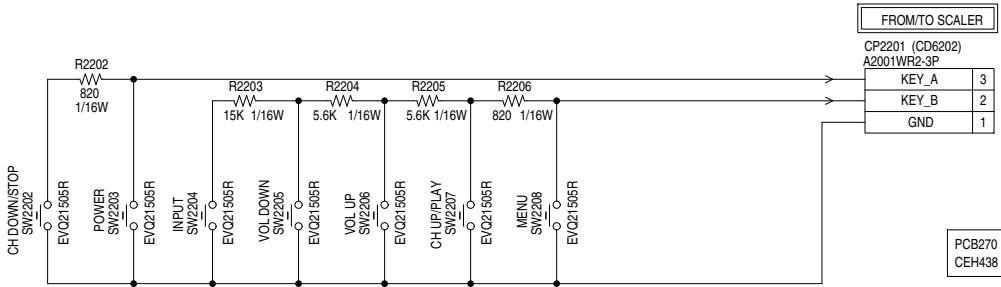
PCB240  
CEH434

JACK OUT SCHEMATIC DIAGRAM  
(POWER PCB)

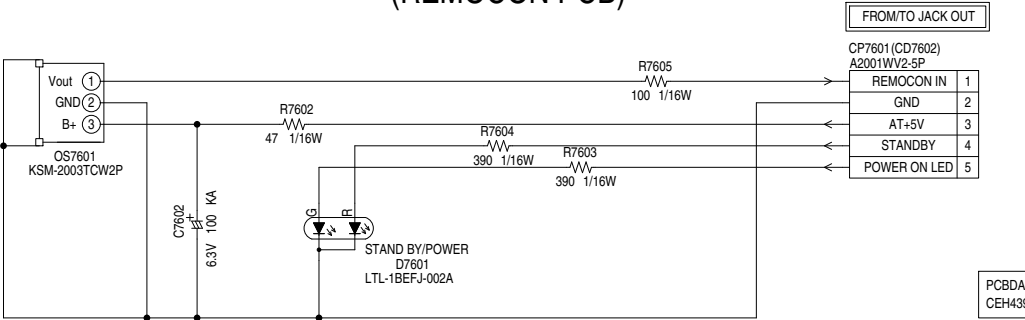


NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME  
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE

(OPERATION PCB)

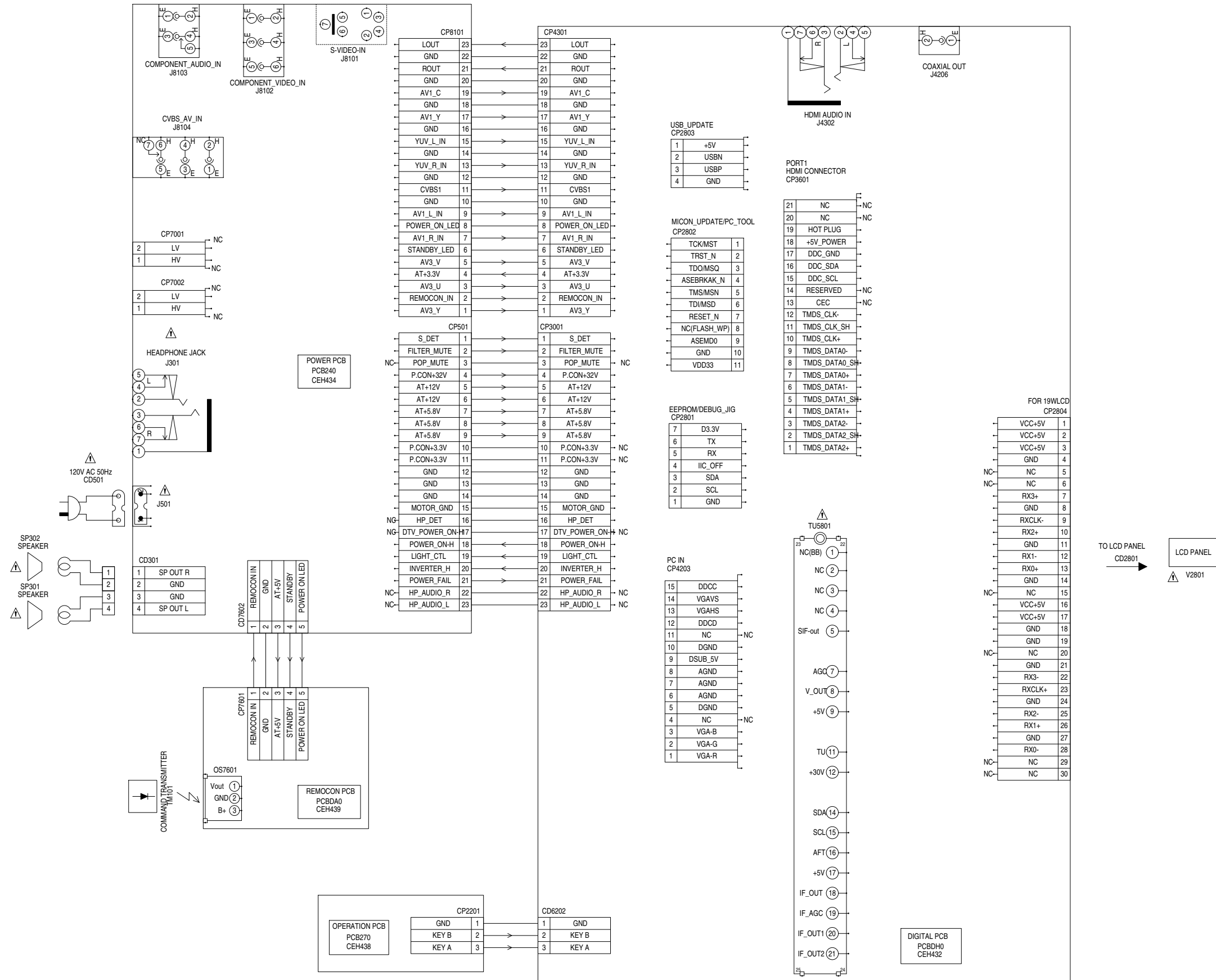


(REMOCON PCB)



NOTE:THE DC VOLTAGE AT EACH PART WAS MEASURED  
WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST  
WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

# INTERCONNECTION DIAGRAM



**CAUTION** SINCE THESE PARTS MARKED BY ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED IN PARTS LIST ONLY.

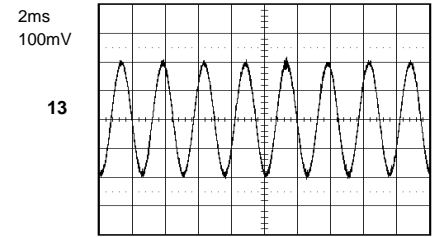
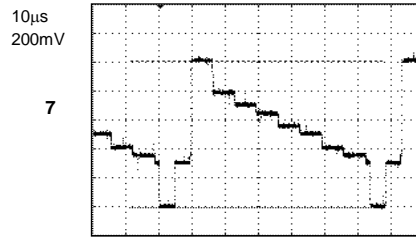
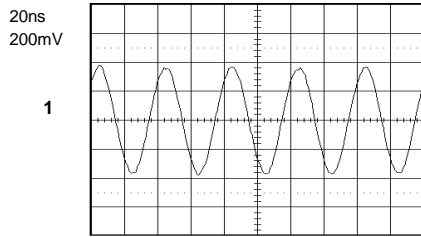
**ATTENTION** LES PIECES REPARÉES PAR UN ÉTANT DANGEREUSES AU POINT DE VUE SÉCURITÉ, N'UTILISER QUE CELLES DÉCRITES DANS LA NOMENCLATURE DES PIÈCES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

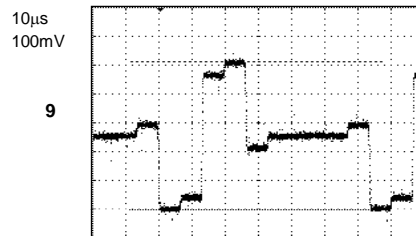
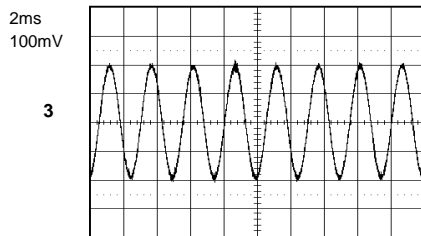
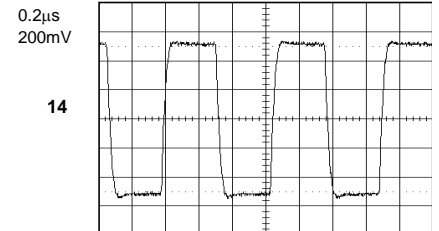
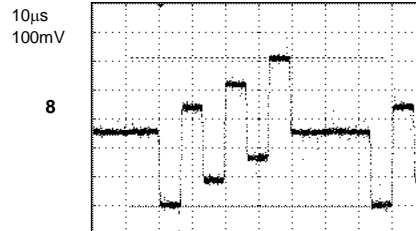
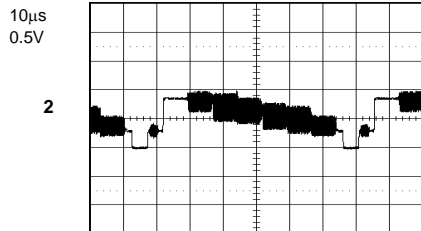
NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

# WAVEFORMS

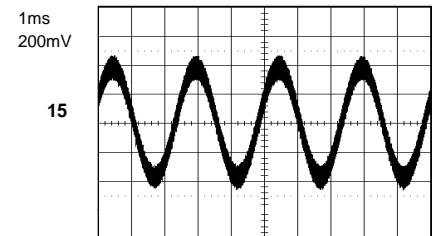
## FLASH



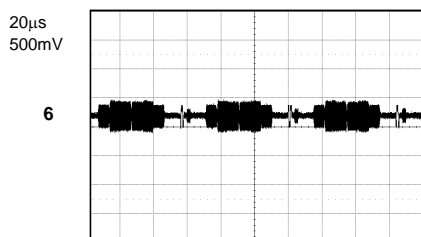
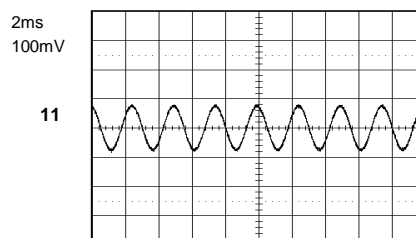
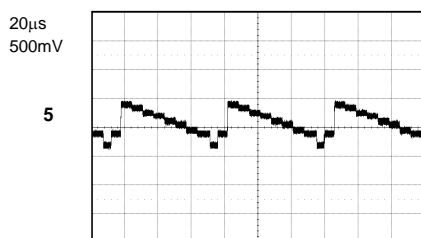
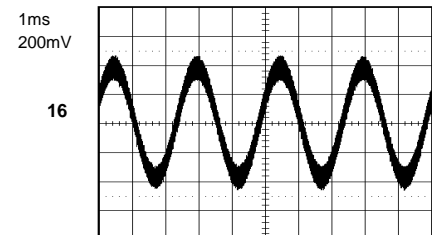
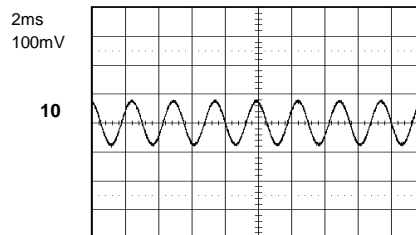
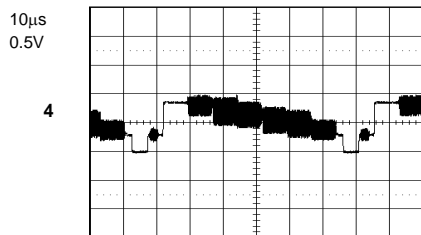
## TUNER



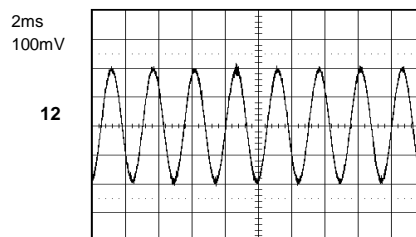
## SOUND AMP



## SCALER VIDEO/AUDIO

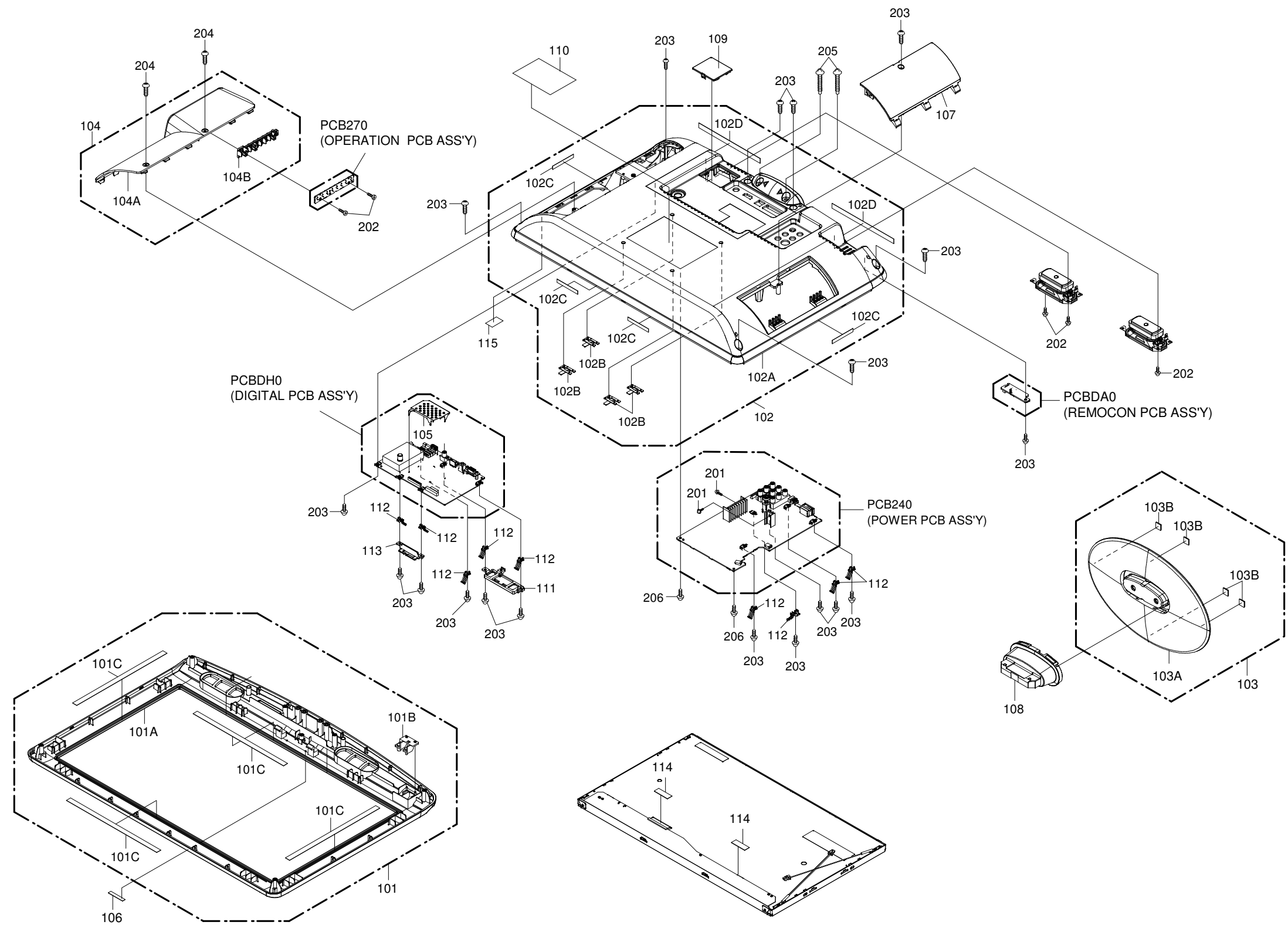


## JACK

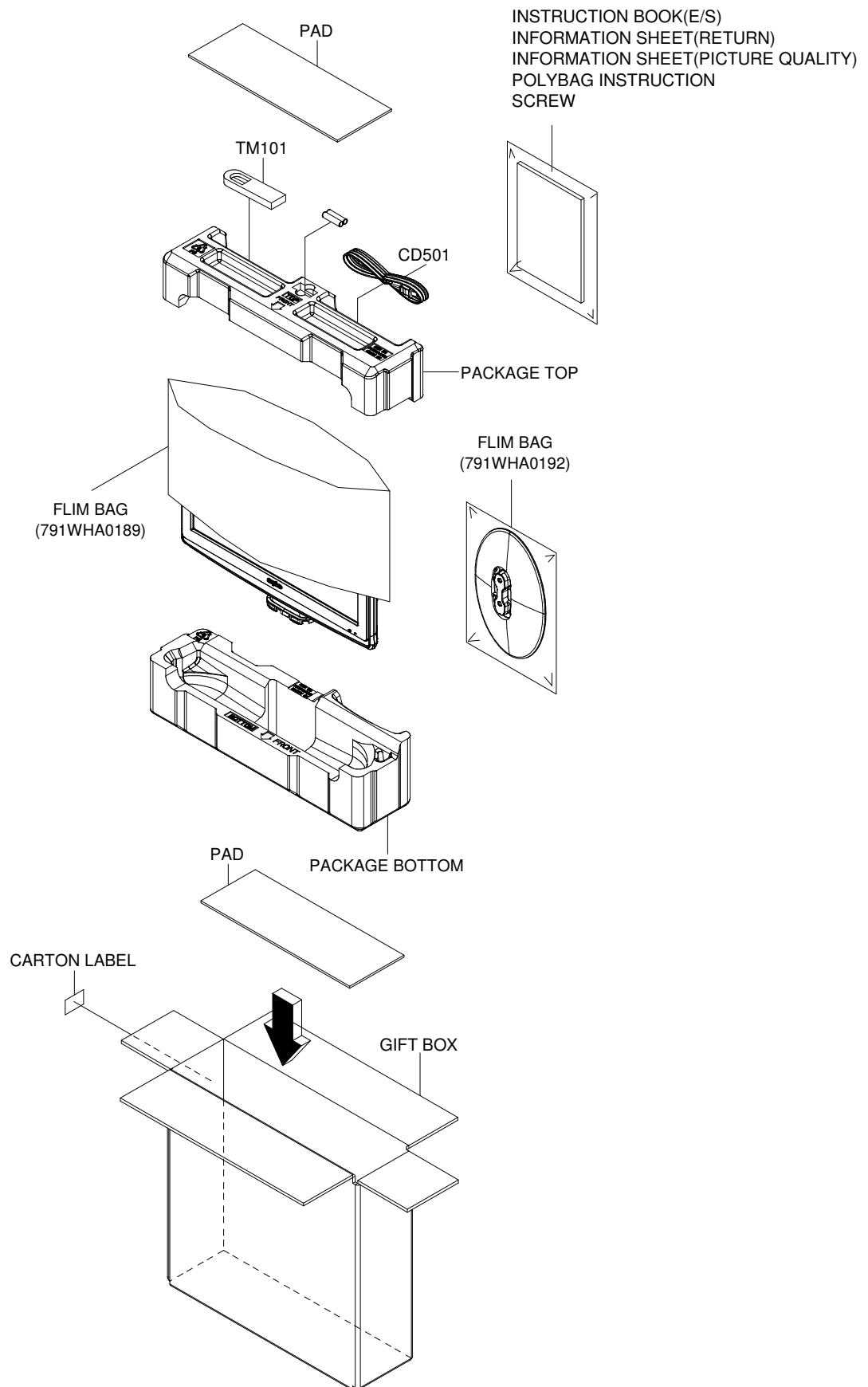


**NOTE :** The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

# MECHANICAL EXPLODED VIEW



# MECHANICAL EXPLODED VIEW (PACKING DIAGRAM)



# MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	
101	7A701B337A	FRONT CABI ASS'Y	
101A	701WPBA113	CABINET FRONT	
101B	713WPA0434	GLASS LED	
101C	800WQ00181	FELT SHEET	
102	7A702A993A	BACK CABI ASS'Y	or
	7A702B005A	BACK CABI ASS'Y	or
	7A702B009A	BACK CABI ASS'Y	
102A	702WPAB548	CABINET BACK	
102B	761WSA0709	ANGLE BACK	
102C	800WQ00182	FELT SHEET	
102D	800WQ00183	FELT SHEET	
103	7A704A184A	STAND ASS'Y	
103A	704WPBA110	STAND	or
	704WPBA111	STAND	or
	704WPBA124	STAND	
103B	800WRA0009	CUSHION LEG	
104	7A711A179A	PANEL SIDE ASS'Y	
104A	711WPDA913	PANEL SIDE	
104B	735WPAB189	BUTTON FRAME	
105	752WSA0737	SHIELD DIGITAL	
106	723529A003	BADGE BRAND 1AV2BAAS023	1AV2BAAS023
107	702WPA1438	COVER INVERTER	
108	704WPA0123	STAND FRAME	
109	706WPA0031	COVER CONNECTOR	
110	722529A011	SHEET RATING	
111	761WPAA235	HOLDER LCD	
112	744WUA0038	SPRING EARTH-3	
113	761WPA0554	HOLDER LVDS-3	
114	800WQ00120	FELT SHEET	
115	800WQ0A100	FELT SHEET	
116	800WQ0A060	FELT SHEET	
201	8109I30A0U	SCREW TAP TITE(B) WH7	3x10
202	8109230A0U	SCREW TAP TITE(B) BIND	3x10
203	8109230A4U	SCREW TAP TITE(B) BIND	3x14
204	8110K3080U	SCREW TAP TITE(P) LAMI HEAD	3x8
205	8117140B5U	SCREW TAPPING(B0) PAN	4x25
206	8109D30A0U	SCREW TAP TITE(B) WH8	3x10
---	723000E216	CARTON LABEL	
---	791WHA0173	FILM BAG	
---	791WHA0189	FILM BAG	
---	792WHAA304	PACKAGE TOP	or
---	792WHAA335	PACKAGE TOP	
---	792WHAA305	PACKAGE BOTTOM	or
---	792WHAA336	PACKAGE BOTTOM	
---	793WCDE012	GIFT BOX	
---	795WCA0733	PAD	
---	8905000001	SCREW	
---	J37I0521A	INSTRUCTION BOOK(E/S)	
---	J37I0529A	INFORMATION SHEET(RETURN)	
---	J37I0559A	INFORMATION SHEET(PICTURE QUALITY)	
---	JA5K0000	POLYBAG,INSTRUCTION	

# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		REF. NO.	PART NO.	DESCRIPTION	
RESISTORS				RESISTORS			
R302	R803R9102J	RC	1K OHM 1/16W	R2846	R808R9102F	RC	1K OHM 1/16W
R304	R803R9222J	RC	2.2K OHM 1/16W	R2847	R808R9562F	RC	5.6K OHM 1/16W
R305	R803R9222J	RC	2.2K OHM 1/16W	R2848	R808R9220J	RC	22 OHM 1/16W
R306	R803R9222J	RC	2.2K OHM 1/16W	R2849	R808R9103J	RC	10K OHM 1/16W
R307	R803R9222J	RC	2.2K OHM 1/16W	R2850	R808R9220J	RC	22 OHM 1/16W
R308	R002T4102J	RC	1K OHM 1/4W	R2851	R808R9103J	RC	10K OHM 1/16W
R309	R002T4102J	RC	1K OHM 1/4W	R2852	R808R9102F	RC	1K OHM 1/16W
R310	R002T4102J	RC	1K OHM 1/4W	R2853	R808R9102F	RC	1K OHM 1/16W
R311	R002T4102J	RC	1K OHM 1/4W	R2854	R808R9102F	RC	1K OHM 1/16W
R313	R002T4101J	RC	100 OHM 1/4W	R2856	R808R9682F	RC	6.8K OHM 1/16W
R501	R002T2223J	RC	22K OHM 1/2W	R2857	R808R9221J	RC	220 OHM 1/16W
R502	R002T4103J	RC	10K OHM 1/4W	R2858	R808R9221J	RC	220 OHM 1/16W
△ R503	RC31X1126J	RC	12M OHM 1W	R2861	R808R9102J	RC	1K OHM 1/16W
R504	R002T2223J	RC	22K OHM 1/2W	R2862	R808R9153J	RC	15K OHM 1/16W
△ R505	R63884330J	R,FUSE	33 OHM 1/4W	R2863	R808R9472J	RC	4.7K OHM 1/16W
R506	R803R9333J	RC	33K OHM 1/16W	R2866	R808R9472J	RC	4.7K OHM 1/16W
R507	R803R9101J	RC	100 OHM 1/16W	R2867	R808R9472J	RC	4.7K OHM 1/16W
R508	R002T4101J	RC	100 OHM 1/4W	R2868	R808R9103J	RC	10K OHM 1/16W
△ R509	RC31X1125J	RC	1.2M OHM 1W	R2873	R808R9472J	RC	4.7K OHM 1/16W
△ R510	R63881R22J	R,FUSE	0.22 OHM 1W	R2874	R808R9472J	RC	4.7K OHM 1/16W
R511	R002T4150J	RC	15 OHM 1/4W	R2876	R808R9472J	RC	4.7K OHM 1/16W
△ R512	R3K781563J	R,METAL OXIDE	56K OHM 1W	R2879	R808R9472J	RC	4.7K OHM 1/16W
R513	R002T4823J	RC	82K OHM 1/4W	R2882	R808R9472J	RC	4.7K OHM 1/16W
R515	R803R9102J	RC	1K OHM 1/16W	R2883	R808R9472J	RC	4.7K OHM 1/16W
R517	R002T4222J	RC	2.2K OHM 1/4W	R2894	R808R9220J	RC	22 OHM 1/16W
R518	R002T4101J	RC	100 OHM 1/4W	R2896	R808R9220J	RC	22 OHM 1/16W
R519	R803R9103J	RC	10K OHM 1/16W	R2901	R808R9103J	RC	10K OHM 1/16W
R523	R803R9222F	RC	2.2K OHM 1/16W	R2906	R808R9103J	RC	10K OHM 1/16W
R524	R803R9911F	RC	910 OHM 1/16W	R2915	R808R9472J	RC	4.7K OHM 1/16W
R525	R803R9222F	RC	2.2K OHM 1/16W	R2916	R808R9472J	RC	4.7K OHM 1/16W
R529	R002T4222J	RC	2.2K OHM 1/4W	R2917	R808R9332J	RC	3.3K OHM 1/16W
R531	R803R9103J	RC	10K OHM 1/16W	R2918	R808R9103J	RC	10K OHM 1/16W
R533	R803R9103F	RC	10K OHM 1/16W	R2919	R808R9103J	RC	10K OHM 1/16W
R535	R002T4822J	RC	8.2K OHM 1/4W	R2920	R808R9103J	RC	10K OHM 1/16W
R536	R803R9224F	RC	220K OHM 1/16W	R2927	R808R9153J	RC	15K OHM 1/16W
R538	R803R9103J	RC	10K OHM 1/16W	R3004	R808R9102J	RC	1K OHM 1/16W
R543	R803R9223J	RC	22K OHM 1/16W	R3012	R808R9682J	RC	6.8K OHM 1/16W
△ R544	R861R41R2F	RC	1.2 OHM 1/4W	R3017	R808R9822J	RC	8.2K OHM 1/16W
△ R545	R861R41R2F	RC	1.2 OHM 1/4W	R3021	R808R9470J	RC	47 OHM 1/16W
△ R546	R861R41R2F	RC	1.2 OHM 1/4W	R3023	R808R9103J	RC	10K OHM 1/16W
△ R547	R861R41R2F	RC	1.2 OHM 1/4W	R3024	R808R9332J	RC	3.3K OHM 1/16W
R549	R803R7102J	RC	1K OHM 1/10W	R3027	R808R9102J	RC	1K OHM 1/16W
R2202	R803R9821J	RC	820 OHM 1/16W	R3029	R808R9393J	RC	39K OHM 1/16W
R2203	R803R9153J	RC	15K OHM 1/16W	R3030	R808R9103F	RC	10K OHM 1/16W
R2204	R803R9562J	RC	5.6K OHM 1/16W	R3034	R808R9103F	RC	10K OHM 1/16W
R2205	R803R9562J	RC	5.6K OHM 1/16W	R3037	R808R9332F	RC	3.3K OHM 1/16W
R2206	R803R9821J	RC	820 OHM 1/16W	R3038	R808R9392F	RC	3.9K OHM 1/16W
R2802	R808R9103J	RC	10K OHM 1/16W	R3039	R808R9681F	RC	680 OHM 1/16W
R2803	R808R9103J	RC	10K OHM 1/16W	R3040	R808R9562F	RC	5.6K OHM 1/16W
R2804	R808R9103J	RC	10K OHM 1/16W	R3057	R808R9433J	RC	43K OHM 1/16W
R2805	R808R9103J	RC	10K OHM 1/16W	R3058	R808R9102F	RC	1K OHM 1/16W
R2807	R808R9472J	RC	4.7K OHM 1/16W	R3059	R808R9273F	RC	27K OHM 1/16W
R2808	R808R9182J	RC	1.8K OHM 1/16W	R3060	R808R9681F	RC	680 OHM 1/16W
R2809	R808R9181F	RC	180 OHM 1/16W	R3431	R808R9471J	RC	470 OHM 1/16W
R2812	R808R9472J	RC	4.7K OHM 1/16W	R3602	R808R9103J	RC	10K OHM 1/16W
R2813	R808R9472J	RC	4.7K OHM 1/16W	R3604	R808R9100J	RC	10 OHM 1/16W
R2815	R808R9220J	RC	22 OHM 1/16W	R3605	R808R9103J	RC	10K OHM 1/16W
R2816	R808R9220J	RC	22 OHM 1/16W	R3607	R808R9101J	RC	100 OHM 1/16W
R2817	R808R9220J	RC	22 OHM 1/16W	R3608	R808R9101J	RC	100 OHM 1/16W
R2818	R808R9220J	RC	22 OHM 1/16W	R3609	R808R9103J	RC	10K OHM 1/16W
R2819	R808R9220J	RC	22 OHM 1/16W	R3611	R808R9102J	RC	1K OHM 1/16W
R2820	R808R9105J	RC	1M OHM 1/16W	R3612	R808R9103J	RC	10K OHM 1/16W
R2828	R808R9472J	RC	4.7K OHM 1/16W	R3613	R808R9103J	RC	10K OHM 1/16W
R2829	R808R9102F	RC	1K OHM 1/16W	R3614	R808R9223J	RC	22K OHM 1/16W
R2830	R808R9102F	RC	1K OHM 1/16W	R3615	R808R9473J	RC	47K OHM 1/16W
R2831	R808R9121J	RC	120 OHM 1/16W	R3616	R808R9103J	RC	10K OHM 1/16W
R2832	R808R9330J	RC	33 OHM 1/16W	R3617	R808R9473J	RC	47K OHM 1/16W
R2835	R808R9472J	RC	4.7K OHM 1/16W	R3618	R808R9103J	RC	10K OHM 1/16W
R2836	R808R9103J	RC	10K OHM 1/16W	R3625	R808R9472J	RC	4.7K OHM 1/16W
R2837	R808R9103J	RC	10K OHM 1/16W	R3638	R808R9103J	RC	10K OHM 1/16W
R2838	R808R9472J	RC	4.7K OHM 1/16W	R3641	R808R9472J	RC	4.7K OHM 1/16W
R2839	R808R9472J	RC	4.7K OHM 1/16W	R3642	R808R9472J	RC	4.7K OHM 1/16W
R2841	R808R9330J	RC	33 OHM 1/16W	R3643	R808R9332J	RC	3.3K OHM 1/16W
R2842	R808R94R7J	RC	4.7 OHM 1/16W	R3644	R808R9332J	RC	3.3K OHM 1/16W
R2843	R808R94R7J	RC	4.7 OHM 1/16W	R3651	R808R9302J	RC	3K OHM 1/16W
R2844	R808R9820F	RC	82 OHM 1/16W	R3652	R808R9752J	RC	7.5K OHM 1/16W
R2845	R808R9102F	RC	1K OHM 1/16W	R3653	R808R9682F	RC	6.8K OHM 1/16W



# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
RESISTORS			RESISTORS		
R3654	R808R9561J	RC 560 OHM 1/16W	R8103	R803R9750J	RC 75 OHM 1/16W
R3657	R808R9103J	RC 10K OHM 1/16W	R8104	R803R9750J	RC 75 OHM 1/16W
R4235	R808R9222J	RC 2.2K OHM 1/16W	R8105	R803R9750J	RC 75 OHM 1/16W
R4238	R808R9101J	RC 100 OHM 1/16W	R8106	R803R9750J	RC 75 OHM 1/16W
R4245	R808R9152J	RC 1.5K OHM 1/16W	R8107	R803R9750J	RC 75 OHM 1/16W
R4246	R808R9332J	RC 3.3K OHM 1/16W	R8108	R803R9750J	RC 75 OHM 1/16W
R4247	R808R9101J	RC 100 OHM 1/16W	R8110	R803R9102J	RC 1K OHM 1/16W
R4249	R808R9221J	RC 220 OHM 1/16W	R8111	R803R9101J	RC 100 OHM 1/16W
R4250	R808R9101J	RC 100 OHM 1/16W	R8112	R803R9101J	RC 100 OHM 1/16W
R4251	R808R9680J	RC 68 OHM 1/16W	R8113	R803R9102J	RC 1K OHM 1/16W
R4252	R808R9332J	RC 3.3K OHM 1/16W	R8114	R803R9102J	RC 1K OHM 1/16W
R4254	R808R9332J	RC 3.3K OHM 1/16W	R8115	R803R9101J	RC 100 OHM 1/16W
R4257	R808R9104J	RC 100K OHM 1/16W	R8116	R803R9102J	RC 1K OHM 1/16W
R4258	R808R9222J	RC 2.2K OHM 1/16W	R8117	R803R9102J	RC 1K OHM 1/16W
R4261	R808R9750J	RC 75 OHM 1/16W	R8118	R803R9101J	RC 100 OHM 1/16W
R4262	R808R9222J	RC 2.2K OHM 1/16W	R8119	R803R9101J	RC 100 OHM 1/16W
R4263	R808R9750J	RC 75 OHM 1/16W	R8120	R803R9101J	RC 100 OHM 1/16W
R4265	R808R9750J	RC 75 OHM 1/16W	CAPACITORS		
R4316	R808R9102J	RC 1K OHM 1/16W	C301	CS0PB0N16K	CC 1 UF 10V B
R4317	R808R9102J	RC 1K OHM 1/16W	C302	CS0PB0415K	CC 0.1 UF 50V B
R4318	R808R9563J	RC 56K OHM 1/16W	C303	CS0PB0N16K	CC 1 UF 10V B
R4319	R808R9563J	RC 56K OHM 1/16W	C304	E7ESU2101M	CE 100 UF 16V
R5803	R808R9154J	RC 150K OHM 1/16W	C305	CS0PCH4Q2J	CC 470 PF 50V CH
R5804	R808R9473J	RC 47K OHM 1/16W	C306	CS0PCH4Q2J	CC 470 PF 50V CH
R5805	R808R9104J	RC 100K OHM 1/16W	C307	E7ESU5100M	CE 10 UF 50V
R5806	R808R9101J	RC 100 OHM 1/16W	C309	E7EST2471M	CE 470 UF 16V
R5807	R808R9101J	RC 100 OHM 1/16W	C310	E7EST2471M	CE 470 UF 16V
R5808	R808R9101J	RC 100 OHM 1/16W	C311	E7EST2471M	CE 470 UF 16V
R5809	R808R9101J	RC 100 OHM 1/16W	C319	CS0PB0315K	CC 0.1 UF 25V B
R5814	R808R9332J	RC 3.3K OHM 1/16W	C320	CS0PB0315K	CC 0.1 UF 25V B
R5815	R808R9332J	RC 3.3K OHM 1/16W	C323	E7ESU54R7M	CE 4.7 UF 50V
R5816	R808R9102J	RC 1K OHM 1/16W	C501	CS0PB04E4K	CC 0.015 UF 50V B
R5817	R808R9101J	RC 100 OHM 1/16W	△ C502	E82DFC151M	CC 150 UF 200V
R5824	R808R9102J	RC 1K OHM 1/16W	C503	CS0PCH4Q1J	CC 47 PF 50V CH
R6207	R808R9103J	RC 10K OHM 1/16W	△ C504	E83YF1222D	CE 2200 UF 10V
R6208	R808R9472J	RC 4.7K OHM 1/16W	C505	CS0PCH4W1J	CC 82 PF 50V CH
R6503	R808R9153J	RC 15K OHM 1/16W	△ C506	P4K12D224K	CMPP 0.22 UF 310V
R6504	R808R9153J	RC 15K OHM 1/16W	△ C507	CD39EOM13M	CC 0.001 UF 250V
R6506	R808R9153J	RC 15K OHM 1/16W	△ C508	P4K12D104K	CMPP 0.1 UF 310V
R6507	R808R9103J	RC 10K OHM 1/16W	△ C509	CS0PB0415K	CC 0.1 UF 50V B
R6508	R808R9103J	RC 10K OHM 1/16W	C510	CRGTB0415K	CC 0.1 UF 50V B
R6509	R808R9153J	RC 15K OHM 1/16W	△ C511	E7EPU2221M	CE 220 UF 16V
R6510	R808R9153J	RC 15K OHM 1/16W	△ C513	C0PLRR713K	CC 0.001 UF 2KV R
R6511	R808R9153J	RC 15K OHM 1/16W	△ C514	CD39B0MQ2K	CC 470 PF 250V
R7001	R803R9272J	RC 2.7K OHM 1/16W	C516	E7ESU5470M	CE 47 UF 50V
R7002	R803R9223J	RC 22K OHM 1/16W	C518	P332E4223J	CCP 0.022 UF 400V
R7003	R803R9472J	RC 4.7K OHM 1/16W	C519	C03L0R7H2K	CC 220 PF 2KV R
R7004	R803R9102J	RC 1K OHM 1/16W	△ C520	E8E2U54R7D	CE 4.7 UF 50V
R7005	R803R9101J	RC 100 OHM 1/16W	C521	P232W0184J	CCPL 0.18 UF 50V MMTS
R7010	R803R9393F	RC 39K OHM 1/16W	△ C522	E83YF2102D	CE 1000 UF 16V
R7011	R002T4104J	RC 100K OHM 1/4W	C523	P1S3T0472J	CP 0.0047UF 50V
R7012	R002T4471J	RC 470 OHM 1/4W	△ C525	E83YF3102D	CE 1000 UF 25V
R7013	R803R9683J	RC 68K OHM 1/16W	C526	CS0PB0413K	CC 0.001 UF 50V B
R7014	R002T4153J	RC 15K OHM 1/4W	C531	CS0PB0316K	CC 1 UF 25V B
R7015	R803R9223J	RC 22K OHM 1/16W	△ C534	CD39EOM13M	CC 0.001 UF 250V
R7016	R803R9223J	RC 22K OHM 1/16W	C538	CS0PB03E5K	CC 0.15 UF 25V B
R7017	R803R9223F	RC 22K OHM 1/16W	C539	CS0PB03E5K	CC 0.15 UF 25V B
R7018	R803R9122J	RC 1.2K OHM 1/16W	C543	E7ESU5100M	CE 10 UF 50V
R7019	R002T4471J	RC 470 OHM 1/4W	C545	CS0PB02E5K	CC 0.15 UF 16V B
R7021	R803R9274J	RC 270K OHM 1/16W	C546	CS0PB02E5K	CC 0.15 UF 16V B
R7022	R002T4332J	RC 3.3K OHM 1/4W	C2801	CS0UB0N15K	CC 0.1 UF 10V B
R7023	R002T4220J	RC 22 OHM 1/4W	C2805	CS0UB0214K	CC 0.01 UF 16V B
R7024	R002T4220J	RC 22 OHM 1/4W	C2807	CS0UCH4H1J	CC 22 PF 50V CH
R7025	R803R9393F	RC 39K OHM 1/16W	C2808	CS0UCH4H1J	CC 22 PF 50V CH
R7026	R803R9822F	RC 8.2K OHM 1/16W	C2809	CS0UB0N15K	CC 0.1 UF 10V B
R7027	R803R9153J	RC 15K OHM 1/16W	C2810	CS0UB0N15K	CC 0.1 UF 10V B
R7028	R803R9104F	RC 100K OHM 1/16W	C2811	CS0RB0N17K	CC 10 UF 10V B
R7030	R803R9153F	RC 15K OHM 1/16W	C2812	CS0UB0N15K	CC 0.1 UF 10V B
R7031	R803R9272F	RC 2.7K OHM 1/16W	C2813	CS0UB0N15K	CC 0.1 UF 10V B
R7032	R803R9333J	RC 33K OHM 1/16W	C2814	CS0UB0N15K	CC 0.1 UF 10V B
R7038	R002T4330J	RC 33 OHM 1/4W	C2815	CS0UB0N15K	CC 0.1 UF 10V B
R7039	R002T4330J	RC 33 OHM 1/4W	C2816	CS0UB0N15K	CC 0.1 UF 10V B
R7047	R803R9103J	RC 10K OHM 1/16W	C2817	CS0UB0N15K	CC 0.1 UF 10V B
R7602	R803R9470J	RC 47 OHM 1/16W	C2818	CS0UB0N15K	CC 0.1 UF 10V B
R7603	R803R9391J	RC 390 OHM 1/16W	C2819	CS0UB0N15K	CC 0.1 UF 10V B
R7604	R803R9391J	RC 390 OHM 1/16W	C2820	CS0UB0N15K	CC 0.1 UF 10V B
R7605	R803R9101J	RC 100 OHM 1/16W	C2821	CS0UB0N15K	CC 0.1 UF 10V B

# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		REF. NO.	PART NO.	DESCRIPTION	
CAPACITORS				CAPACITORS			
C2822	CS0UB0N15K	CC	0.1 UF 10V B	C2919	CS0UB0N15K	CC	0.1 UF 10V B
C2823	CS0UB0N15K	CC	0.1 UF 10V B	C2925	CS0RB0N17K	CC	10 UF 10V B
C2824	CS0UB0N15K	CC	0.1 UF 10V B	C2926	CS0RB0N17K	CC	10 UF 10V B
C2825	CS0UB0N15K	CC	0.1 UF 10V B	C2927	CS0RB0N17K	CC	10 UF 10V B
C2826	CS0UB0N15K	CC	0.1 UF 10V B	C2928	CS0RB0N17K	CC	10 UF 10V B
C2827	CS0UB0N15K	CC	0.1 UF 10V B	C2929	CS0RB0N17K	CC	10 UF 10V B
C2828	CS0UB0N15K	CC	0.1 UF 10V B	C2930	E61UMQ331D	CE	330 UF 4V
C2829	CS0UB0N15K	CC	0.1 UF 10V B	C2932	CS0UB0N15K	CC	0.1 UF 10V B
C2830	CS0UB0N15K	CC	0.1 UF 10V B	C2933	CS0UB0N15K	CC	0.1 UF 10V B
C2831	CS0UB0N15K	CC	0.1 UF 10V B	C2934	CS0UB0N15K	CC	0.1 UF 10V B
C2832	CS0UB0N15K	CC	0.1 UF 10V B	C2936	CS0UB0N15K	CC	0.1 UF 10V B
C2833	CS0UB0N15K	CC	0.1 UF 10V B	C2937	CS0UB0N15K	CC	0.1 UF 10V B
C2834	CS0UB0N15K	CC	0.1 UF 10V B	C2938	CS0UB0N15K	CC	0.1 UF 10V B
C2835	CS0UB0N15K	CC	0.1 UF 10V B	C2939	CS0UB0N15K	CC	0.1 UF 10V B
C2836	CS0UB0N15K	CC	0.1 UF 10V B	C2940	CS0UB0N15K	CC	0.1 UF 10V B
C2837	CS0UB0N15K	CC	0.1 UF 10V B	C2943	CS0UB0N15K	CC	0.1 UF 10V B
C2838	CS0UB0N15K	CC	0.1 UF 10V B	C2944	CS0UB0N15K	CC	0.1 UF 10V B
C2839	CS0UB0N15K	CC	0.1 UF 10V B	C2945	CS0UB0N15K	CC	0.1 UF 10V B
C2840	CS0UB0N15K	CC	0.1 UF 10V B	C2946	CS0PB0N16K	CC	1 UF 10V B
C2841	E61UM0331D	CE	330 UF 6.3V	C2948	CS0PB0N16K	CC	1 UF 10V B
C2842	E61UM1220D	CE	22 UF 10V	C2950	CS0UB0N15K	CC	0.1 UF 10V B
C2843	CS0RB0N17K	CC	10 UF 10V B	C2951	CS0RB0N17K	CC	10 UF 10V B
C2844	CS0UB0N15K	CC	0.1 UF 10V B	C2952	CS0UB0N15K	CC	0.1 UF 10V B
C2845	CS0UB0N15K	CC	0.1 UF 10V B	C2953	CS0UB0N15K	CC	0.1 UF 10V B
C2846	CS0UB0N15K	CC	0.1 UF 10V B	C2954	CS0UB0N15K	CC	0.1 UF 10V B
C2848	CS0UB0N15K	CC	0.1 UF 10V B	C2955	CS0UB0N15K	CC	0.1 UF 10V B
C2851	E61UM0331D	CE	330 UF 6.3V	C2956	CS0UB0N15K	CC	0.1 UF 10V B
C2854	CS0UB0N15K	CC	0.1 UF 10V B	C2957	CS0UB0N15K	CC	0.1 UF 10V B
C2855	E61UMQ331D	CE	330 UF 4V	C2958	CS0UB0N15K	CC	0.1 UF 10V B
C2856	CS0RB0N17K	CC	10 UF 10V B	C2959	E61UM1220D	CE	22 UF 10V
C2857	CS0UB0N15K	CC	0.1 UF 10V B	C2960	CS0UB0N15K	CC	0.1 UF 10V B
C2858	CS0UB0N15K	CC	0.1 UF 10V B	C2961	CS0UB0413K	CC	0.001 UF 50V B
C2859	CS0UB0N15K	CC	0.1 UF 10V B	C2962	CS0UB0413K	CC	0.001 UF 50V B
C2860	CS0RB0N17K	CC	10 UF 10V B	C2963	CS0UB0N15K	CC	0.1 UF 10V B
C2861	CS0RB0N17K	CC	10 UF 10V B	C2976	CS0UB0N15K	CC	0.1 UF 10V B
C2862	CS0RB0N17K	CC	10 UF 10V B	C2985	CS0RB0216K	CC	1 UF 16V B
C2863	CS0RB0N17K	CC	10 UF 10V B	C2986	E61UMQ331D	CE	330 UF 4V
C2864	CS0UB0N15K	CC	0.1 UF 10V B	C3004	CS0UB0P16K	CC	1 UF 6.3V B
C2865	CS0UB0N15K	CC	0.1 UF 10V B	C3005	CS0UB0N15K	CC	0.1 UF 10V B
C2866	CS0UB0N15K	CC	0.1 UF 10V B	C3012	CS0UB0413K	CC	0.001 UF 50V B
C2867	CS0UB0N15K	CC	0.1 UF 10V B	C3015	CS0RB0N17K	CC	10 UF 10V B
C2868	CS0UB0N15K	CC	0.1 UF 10V B	C3017	CS0UB0P16K	CC	1 UF 6.3V B
C2869	CS0UB0N15K	CC	0.1 UF 10V B	C3018	CS0RB0N17K	CC	10 UF 10V B
C2870	CS0UB0N15K	CC	0.1 UF 10V B	C3019	CS0RB0N17K	CC	10 UF 10V B
C2871	CS0UB0N15K	CC	0.1 UF 10V B	C3021	CS0RB0N17K	CC	10 UF 10V B
C2872	CS0UB0N15K	CC	0.1 UF 10V B	C3023	CS0UB0NH5K	CC	0.22 UF 10V B
C2873	CS0UB0N15K	CC	0.1 UF 10V B	C3024	CS0RB0PH7M	CC	22 UF 6.3V B
C2874	CS0UB0N15K	CC	0.1 UF 10V B	C3027	CS0RB0PH7M	CC	22 UF 6.3V B
C2875	CS0UB0N15K	CC	0.1 UF 10V B	C3028	CS0RB0PH7M	CC	22 UF 6.3V B
C2876	CS0UB0N15K	CC	0.1 UF 10V B	C3030	CS0RB0N17K	CC	10 UF 10V B
C2877	CS0UB0N15K	CC	0.1 UF 10V B	C3032	CS0UB0N15K	CC	0.1 UF 10V B
C2878	CS0UB0N15K	CC	0.1 UF 10V B	C3033	CS0UB0413K	CC	0.001 UF 50V B
C2879	CS0UB0N15K	CC	0.1 UF 10V B	C3034	CS0UB0N15K	CC	0.1 UF 10V B
C2880	CS0UB0N15K	CC	0.1 UF 10V B	C3035	CS0UB0N15K	CC	0.1 UF 10V B
C2881	CS0UB0N15K	CC	0.1 UF 10V B	C3038	CS0UB04L3K	CC	0.0033UF 50V B
C2882	CS0UB0N15K	CC	0.1 UF 10V B	C3039	CS0UB0N15K	CC	0.1 UF 10V B
C2883	CS0UB0N15K	CC	0.1 UF 10V B	C3041	CS0RB0N17K	CC	10 UF 10V B
C2884	CS0UB0N15K	CC	0.1 UF 10V B	C3044	CS0UB0P16K	CC	1 UF 6.3V B
C2885	CS0UB0N15K	CC	0.1 UF 10V B	C3045	CS0UB0413K	CC	0.001 UF 50V B
C2889	CS0UB0N15K	CC	0.1 UF 10V B	C3046	CS0RB0N17K	CC	10 UF 10V B
C2891	CS0UB0N15K	CC	0.1 UF 10V B	C3047	CS0UB0N15K	CC	0.1 UF 10V B
C2902	CS0UB0N15K	CC	0.1 UF 10V B	C3048	CS0UB0N15K	CC	0.1 UF 10V B
C2903	CS0UB0N15K	CC	0.1 UF 10V B	C3049	CS0UB0413K	CC	0.001 UF 50V B
C2904	CS0UB0N15K	CC	0.1 UF 10V B	C3050	E71GMM151D	CE	150 UF 2V
C2905	CS0UB0N15K	CC	0.1 UF 10V B	C3051	CS0RB0N17K	CC	10 UF 10V B
C2906	CS0UB0N15K	CC	0.1 UF 10V B	C3601	CS0UB0N15K	CC	0.1 UF 10V B
C2907	CS0UB0N15K	CC	0.1 UF 10V B	C3603	CS0UB0N15K	CC	0.1 UF 10V B
C2908	CS0UB0N15K	CC	0.1 UF 10V B	C3607	CS0UB0214K	CC	0.01 UF 16V B
C2909	CS0UB0N15K	CC	0.1 UF 10V B	C3608	CS0UB04H3K	CC	0.0022UF 50V B
C2911	CS0RB0N17K	CC	10 UF 10V B	C3609	CS0UB0N15K	CC	0.1 UF 10V B
C2912	CS0UB0N15K	CC	0.1 UF 10V B	C3610	CS0PB0PQ6K	CC	4.7 UF 6.3V B
C2913	CS0UB0N15K	CC	0.1 UF 10V B	C3613	CS0UB03H4K	CC	0.022 UF 25V B
C2914	CS0UB0N15K	CC	0.1 UF 10V B	C4230	CS0UB0N15K	CC	0.1 UF 10V B
C2915	CS0UB0N15K	CC	0.1 UF 10V B	C4236	CS0UB0N16K	CC	1 UF 10V B
C2916	CS0UB0N15K	CC	0.1 UF 10V B	C4240	CS0UB0N15K	CC	0.1 UF 10V B
C2917	CS0RB0N17K	CC	10 UF 10V B	C4247	CS0UCH412J	CC	100 PF 50V CH
C2918	CS0UB0N15K	CC	0.1 UF 10V B	C5803	CS0UB0413K	CC	0.001 UF 50V B

# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		REF. NO.	PART NO.	DESCRIPTION	
CAPACITORS				DIODES			
C5804	E61UM0221D	CE	220 UF 6.3V	D521	DGERMA1110	DIODE SILICON	MA111-(TX)
C5808	CS0UB0N15K	CC	0.1 UF 10V B	D522	DGERMA1110	DIODE SILICON	MA111-(TX)
C5809	CS0PB0415K	CC	0.1 UF 50V B	△ D523	D28A10A450	DIODE SCHOTTKY BARRIER	FCQS10A045
C5811	CS0UCH4Q1J	CC	47 PF 50V CH	D526	DE7RB2202B	DIODE ZENER	UDZSNP22B TE-17
C5814	CS0UCH4Q1J	CC	47 PF 50V CH	D527	D97U03301B	DIODE,ZENER	MTZJ33B T-77
C5815	CS0UB0N15K	CC	0.1 UF 10V B	D528	D97U03301B	DIODE,ZENER	MTZJ33B T-77
C5818	CS0UB0N15K	CC	0.1 UF 10V B	D3001	D4CRSK34A0	DIODE SCHOTTKY	SK34A
C5819	CS0UB0N15K	CC	0.1 UF 10V B	D3002	D4CRSK34A0	DIODE SCHOTTKY	SK34A
C5827	CS0UB0214K	CC	0.01 UF 16V B	D3003	D4CRSK34A0	DIODE SCHOTTKY	SK34A
C5828	CS0UB0214K	CC	0.01 UF 16V B	D3004	D4CRSK34A0	DIODE SCHOTTKY	SK34A
C5829	CS0UB0N15K	CC	0.33 UF 10V B	D3006	D4CRSK34A0	DIODE SCHOTTKY	SK34A
C5830	CS0UB0P16K	CC	1 UF 6.3V B	D3403	DGERMA1110	DIODE SILICON	MA111-(TX)
C5831	CS0UCH4S1J	CC	56 PF 50V CH	D3604	D61R0V8001	DIODE VARISTA	EZJZ0V80010
C5832	CS0UB0N15K	CC	0.1 UF 10V B	D3605	D61R0V8001	DIODE VARISTA	EZJZ0V80010
C5833	CS0UB0N15K	CC	0.1 UF 10V B	D3607	DDLRS160T0	DIODE SCHOTTKY BARRIER	SS160-T
C5834	CS0UB0N15K	CC	0.1 UF 10V B	D3610	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
C5835	CS0UCH411J	CC	10 PF 50V CH	D6204	DGJRT54WS0	DIODE SCHOTTKY BARRIER	BAT54WS
C5836	CS0UCH4L1J	CC	33 PF 50V CH	D6206	DGERMA1110	DIODE SILICON	MA111-(TX)
C6201	CS0UB0215K	CC	0.1 UF 16V B	D7003	DE7RB9R12B	DIODE ZENER	UDZSNP9.1B TE-17
C6202	CS0UB0215K	CC	0.1 UF 16V B	D7004	DGERMA1110	DIODE SILICON	MA111-(TX)
C6210	CS0UB0214K	CC	0.01 UF 16V B	D7012	D1VT001330	DIODE,SILICON	1SS133T-77
C6213	CS0PB0N16K	CC	1 UF 10V B	D7013	DGERMA1110	DIODE SILICON	MA111-(TX)
C6501	CS0PB0N16K	CC	1 UF 10V B	D7014	DGERMA1110	DIODE SILICON	MA111-(TX)
C6503	CS0PB0N16K	CC	1 UF 10V B	D7017	DGERMA1110	DIODE SILICON	MA111-(TX)
C6505	E61UM2101D	CE	100 UF 16V	D7018	DGERMA1110	DIODE SILICON	MA111-(TX)
C6510	CS0PB0N16K	CC	1 UF 10V B	D7024	DGERMA1110	DIODE SILICON	MA111-(TX)
C6514	CS0PB0N16K	CC	1 UF 10V B	D7601	0021E9Q010	LED	LTL-1BEFJ-002A
C6516	CS0PB0N16K	CC	1 UF 10V B	ICS			
C6518	CS0PB0N16K	CC	1 UF 10V B	△ IC301	I03SP20520	SOUND AMP 5W 2CH	LA42052-E
C7001	CS0PB0315K	CC	0.1 UF 25V B	△ IC501	ICAL055710	POWER IC CONTROL	FA5571N-D1-TE1
C7002	CS0PB04Q3K	CC	0.0047UF 50V B	△ IC502	I1KJ9A431A	VARIABLE SHUNT REGULATOR TAPE	KIA431A-AT
C7003	CS0PB02U4K	CC	0.068 UF 16V B	△ IC503	I03F9797M0	CHARGE POMP CONTROL	LA5797M-TE-L-E
C7004	CS0PB0413K	CC	0.001 UF 50V B	△ IC505	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
C7007	CS0PB04Q3K	CC	0.0047UF 50V B	IC2801	I56M040120	SCALER C5+	R8J04012BG
C7008	CS0PB0NQ5K	CC	0.47 UF 10V B	IC2802	IGXM05162E	DDR2-800 512M CL=5	H5PS5162FFR-S5C
C7009	CS0PB0315K	CC	0.1 UF 25V B	IC2803	S39A08WE01	MEMORY DATA EEPROM 256K I2C	AT24C256BN-SH-T
C7010	CS0PB0415K	CC	0.1 UF 50V B	IC2804	-----	MEMORY DATA FLASH 32M SPI 8PIN	AT25DF321-SU
C7011	CS0PB0316K	CC	1 UF 25V B	IC2806	ICRJ0C2560	EEPROM 256K I2C	AT24C256BN-SH-T
C7012	CS0PCH4H2J	CC	220 PF 50V CH	△ IC3004	I5HJ950UC0	REGULATOR VO=5.0V IO=800MA	S-1170B50UC-OUJTFG
C7017	COJTB05H3K	CC	0.0022UF 500V B	△ IC3006	I07F993230	DC-DC CONVERTER 3.0A	BD9323EFJ
C7018	COJTB05H3K	CC	0.0022UF 500V B	△ IC3007	I07F993230	DC-DC CONVERTER 3.0A	BD9323EFJ
C7020	CS0PB0414K	CC	0.01 UF 50V B	△ IC3008	IGRF0704U0	2A DROPOUT LINEAR REGULATOR	UP7704U8
C7022	CS0SB0317K	CC	10 UF 25V B	IC3601	S39A08WE02	MEMORY DATA EEPROM 2K 12C	S-24CS02AFJ-TB-GE
C7026	CS0SB0317K	CC	10 UF 25V B	IC6201	I9UF032290	RESET IC 2.9V TYPE	PST3229NR
C7030	C234SLBB1J	CC	12 PF 6KV SL	IC6501	I55J040520	DUAL 4CH ANALOG MULTIPLEXER	TC74LVX4052FT
C7031	CS0PB0414K	CC	0.01 UF 50V B	IC7001	I07F098930	INVERTER CONTROL IC	BD9893F-E2
C7032	CS0PB0414K	CC	0.01 UF 50V B	TRANSISTORS			
C7033	C234SLBB1J	CC	12 PF 6KV SL	△ Q501	TJA0N50FS0	FET	KHB9D0N50F2-U/P
C7602	E70QU0101M	CE	100 UF 6.3V	Q503	TPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK
C8102	CS0PCH412J	CC	100 PF 50V CH	Q504	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
C8103	CS0PCH412J	CC	100 PF 50V CH	Q505	TAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
C8104	CS0PCH4Q2J	CC	470 PF 50V CH	Q3001	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
C8105	CS0PCH412J	CC	100 PF 50V CH	Q3002	TPAAA05001	COMPOUND TRANSISTOR	KRA101SRTK
C8106	CS0PCH4Q2J	CC	470 PF 50V CH	Q3003	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
C8107	CS0PCH4Q2J	CC	470 PF 50V CH	Q3004	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
C8108	CS0PCH4Q2J	CC	470 PF 50V CH	Q3005	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
C8109	CS0PCH412J	CC	100 PF 50V CH	Q3008	TK9A3443B0	FET	SI3443BDV-T1-E3
C8110	CS0PCH412J	CC	100 PF 50V CH	Q3407	TNAAB05003	COMPOUND TRANSISTOR	KRC102SRTK
C8111	CS0PCH4Q2J	CC	470 PF 50V CH	Q3604	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
DIODES				Q3607	T27T035410	FET	2SK3541_T2L
D501	DE7RB3302B	DIODE ZENER	UDZSNP33B TE-17	Q3608	T27T035410	FET	2SK3541_T2L
△ D504	D7KE101520	DIODE VARISTA	S10K150E2S5M4	Q3612	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
D505	D2WXN40050	DIODE SILICON	1N4005-EIC	Q3613	T27T035410	FET	2SK3541_T2L
D506	D28R11FS20	DIODE	EC11FS2-TE12L	Q4204	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ D507	D4JXRM11C0	DIODE SILICON	ZRM11C	Q4307	TPAAC05002	COMPOUND TRANSISTOR	KRA103SRTK
△ D508	D4JXRM11C0	DIODE SILICON	ZRM11C	Q6502	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
D509	DE7RB3302B	DIODE ZENER	UDZSNP33B TE-17	Q6504	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
△ D510	D4JXRM11C0	DIODE SILICON	ZRM11C	Q7001	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
△ D511	D4AT01H6E0	DIODE RECTIFIER	1H6-E	Q7002	TCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
D512	D2BXARS010	DIODE SILICON	SARS01-V1	△ Q7004	TS3M000040	COMPOUND TRANSISTOR	FW256-TL-E
△ D514	D2WXRU2AM0	DIODE SILICON	RU2AM-EIC	COILS & TRANSFORMERS			
△ D515	D28F31DQ10	DIODE SCHOTTKY	31DQ10-FC	△ L502	029X000420	COIL,LINE FILTER	SS11VL-R10093
△ D516	D4AT01H3E0	DIODE RECTIFIER	1H3-E	L503	02167E220K	COIL	22 UH
D517	D97U01201B	DIODE,ZENER	MTZJ12B T-77	L504	02167E100K	COIL	10 UH
△ D518	D4JXRM11C0	DIODE SILICON	ZRM11C	L3002	021UMK100P	COIL	10 UH
D519	DGERMA1110	DIODE SILICON	MA111-(TX)	L3003	021UMK100P	COIL	10 UH
D520	DGERMA1110	DIODE SILICON	MA111-(TX)	L3008	021UMK100P	COIL	10 UH

# ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION		REF. NO.	PART NO.	DESCRIPTION	
COILS & TRANSFORMERS				MISCELLANEOUS			
L3602	02D1000119	COIL CHOKE	EXC28CG900U	CP8101	06977NM020	CONNECTOR PCB SIDE	127301123K2
L3603	02D1000119	COIL CHOKE	EXC28CG900U	EL2401	124116281A	EYE LET	XRY16X28BD
L5803	021AS9224J	COIL	0.22 UH	EL2402	124120301A	EYE LET	XRY20X30BD
L5804	0216SD220J	COIL	22 UH	△ F501	081PC04005	FUSE	51MS040L
△ T501	0481280258	TRANSFORMER,SWITCHING	81280258	△ F7001	0835C04003	MICRO FUSE	20N_4000FS
△ T7001	048137001R	TRANSFORMER,SWITCHING	8137001R	FH501	067A0T0011	HOLDER,FUSE	CNT47-0003A
JACKS				FH502	067A0T0011	HOLDER,FUSE	CNT47-0003A
△ J301	060R131024	HEADPHONE JACK	PJ-364H	NR2801	11074330M7	R,NETWORK	CRA108330JV
△ J501	064Q1A0010	JACK,AC	CCT2302-0901C	NR2802	11074330M7	R,NETWORK	CRA108330JV
J4206	060R401140	RCA JACK	RCA-101HT(OR)	NR2803	11074330M7	R,NETWORK	CRA108330JV
J4302	060R131024	HEADPHONE JACK	PJ-364H	NR2804	11074220M7	R,NETWORK	CRA108220JV
J8101	062R750007	PLUG	DIN-417HA-01	NR2805	11074220M7	R,NETWORK	CRA108220JV
J8102	060R411058	RCA JACK	RCA-341H(NI)-09	NR2814	11074330M7	R,NETWORK	CRA108330JV
J8103	060R431039	RCA JACK	RCA-228H(3)NI-02	NR2815	11074330M7	R,NETWORK	CRA108330JV
J8104	060R431040	RCA JACK	RCA-341H(2)NI-06	NR3601	11074473M7	R,NETWORK	CRA108473JV
SWITCHES				NR3602	11074473M7	R,NETWORK	CRA108473JV
SW2202	0504101T34	SWITCH,TACT	EVQ21505R	NR3605	11074473M7	R,NETWORK	CRA108473JV
SW2203	0504101T34	SWITCH,TACT	EVQ21505R	NR3606	11074473M7	R,NETWORK	CRA108473JV
SW2204	0504101T34	SWITCH,TACT	EVQ21505R	NR6501	11074223M7	R,NETWORK	CRA108223JV
SW2205	0504101T34	SWITCH,TACT	EVQ21505R	NR6502	11074223M7	R,NETWORK	CRA108223JV
SW2206	0504101T34	SWITCH,TACT	EVQ21505R	NR6503	11074223M7	R,NETWORK	CRA108223JV
SW2207	0504101T34	SWITCH,TACT	EVQ21505R	NR6504	11074223M7	R,NETWORK	CRA108223JV
SW2208	0504101T34	SWITCH,TACT	EVQ21505R	OS7601	077Q038009	REMOTE RECEIVER	KSM-2003TCW2P
P.C.BOARD ASSEMBLIES				△ SP301	070Y433004	SPEAKER	S0308F01
PCB240	A37I05T240	POWER PCB ASS'Y	CEH434A	△ SP302	070Y433004	SPEAKER	S0308F01
PCB270	A37I05T270	OPERATION PCB ASS'Y	CEH438A	△ TH501	DSQDNE5R0L	THERMISTOR	5D2-08LCS
PCBDA0	A37I05TDA0	REMOCON PCB ASS'Y	CEH439A	TM101	076E0PV031	TRANSMITTER	CRB07E02
PCBDH0	A37I05TDH0	DIGITAL PCB ASS'Y	CEH432A	△ TU5801	0164100027	DIGITAL TUNER	ENG36E18KRF
MISCELLANEOUS				△ V2801	A39A08W360	LCD MODULE ASS'Y	M185B1-P01-CL01-OR1
B304	024HC13914	CORE,BEADS	HCB3216KF-391T20	X2801	100GT02509	CRYSTAL	SMD-49 C25000H025
B305	024HC13914	CORE,BEADS	HCB3216KF-391T20	RESISTOR			
B307	024HC13914	CORE,BEADS	HCB3216KF-391T20	RC.....		CARBON RESISTOR	
B308	024HC13914	CORE,BEADS	HCB3216KF-391T20	CAPACITORS			
B501	024HT03564	CORE,BEADS	W4BRH3.5X6X1.0	CC.....		CERAMIC CAPACITOR	
B2801	024HC52213	CORE,BEADS	FCM1608KF-221T05	CE.....		ALUMI ELECTROLYTIC CAPACITOR	
B2802	024HC52216	CORE,BEADS	HCB1608KF-221T20	CP.....		POLYESTER CAPACITOR	
B2803	024HC52216	CORE,BEADS	HCB1608KF-221T20	CPP.....		POLYPROPYLENE CAPACITOR	
B2805	024HC51816	CORE,BEADS	HCB1608KF-181T20	CPL.....		PLASTIC CAPACITOR	
B2807	024HC52216	CORE,BEADS	HCB1608KF-221T20	CMP.....		METAL POLYESTER CAPACITOR	
B2809	024HC52216	CORE,BEADS	HCB1608KF-221T20	CMPL.....		METAL PLASTIC CAPACITOR	
B2810	024HC52216	CORE,BEADS	HCB1608KF-221T20	CMPP.....		METAL POLYPROPYLENE CAPACITOR	
B2811	024BC5121J	CORE,BEADS	BLM18PG121SN1D				
B2812	024BC5121J	CORE,BEADS	BLM18PG121SN1D				
B2813	024BC5121J	CORE,BEADS	BLM18PG121SN1D				
B2814	024BC5121J	CORE,BEADS	BLM18PG121SN1D				
B2817	024BC5121J	CORE,BEADS	BLM18PG121SN1D				
B2818	024BC5121J	CORE,BEADS	BLM18PG121SN1D				
B3016	024HC51816	CORE,BEADS	HCB1608KF-181T20				
B3601	024HC51816	CORE,BEADS	HCB1608KF-181T20				
B4215	024HC56005	CORE,BEADS	FCM1608CF-600T06				
B5803	024HC51023	CORE,BEADS	FCM1608KF-102T02				
B5804	024HC51023	CORE,BEADS	FCM1608KF-102T02				
B5805	024BC5121J	CORE,BEADS	BLM18PG121SN1D				
B6201	024HC51023	CORE,BEADS	FCM1608KF-102T02				
B6202	024HC51023	CORE,BEADS	FCM1608KF-102T02				
B6203	024HC51023	CORE,BEADS	FCM1608KF-102T02				
B6503	024HC52213	CORE,BEADS	FCM1608KF-221T05				
BT001	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB				
BT002	141L004019	BATTERY,MANGAN	R03 (AB) 2P TG AO DB				
CD301	06CU143401	CORD CONNECTOR	CU143401				
△ CD501	120Q119905	CORD SET AC	P201-2476-2				
CP501	06977NM020	CONNECTOR PCB SIDE	127301123K2				
CD2801	06EA2U2510	CORD CONNECTOR	EA2U2510				
CD6202	06CU231502	CORD CONNECTOR	CU231502				
CD7602	06CU250802	CORD CONNECTOR	CU250802				
CP2201	069S230639	CONNECTOR PCB SIDE	A2001WR2-3P				
CP2801	06GG270029	CONNECTOR PCB SIDE	A2001WV-7A				
CP2802	06GG2B0029	CONNECTOR PCB SIDE	A2001WV-11A				
CP2803	06G5AA1002	CONNECTOR PCB SIDE	USB-A1D102F-4B4N				
CP2804	069S2U0739	CONNECTOR PCB SIDE	A2006WV0-2X15P				
CP3001	06CK7N0301	CORD CONNECTOR	TWG-P23P-A1				
CP3601	06GDYL3038	CONNECTOR PCB SIDE	1A0300030				
CP4203	06G7S21501	CONNECTOR PCB SIDE	WD-00021-R				
CP4301	06CK7N0301	CORD CONNECTOR	TWG-P23P-A1				
CP7001	069SJ20019	CONNECTOR PCB SIDE	C3502WR0-2P-HK				
CP7002	069SJ20019	CONNECTOR PCB SIDE	C3502WR0-2P-HK				
CP7601	069S250629	CONNECTOR PCB SIDE	A2001WV2-5P				

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